MONTHLY WEATHER REVIEW.

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CLIMATOLOGICAL DATA FOR SEPTEMBER, 1913.

DISTRICT NO. 1, NORTH ATLANTIC STATES.

Prof. WILFORD M. WILSON, District Editor.

GENERAL SUMMARY.

September was comparatively free from meteorological phenomena of much general interest. The month was somewhat cooler than usual, though temperatures were abnormally high on several dates, especially before the 9th. At many places the weather on the 2d or 3d was the warmest known in any September for 10 years or more. On the other hand, freezing temperatures occurred to a remarkable extent and at an unusually early date. No feature of the month's weather was of greater significance than the frosts that occurred on the 15th and 16th, which were more widespread and injurious than any that have been experienced within the district earlier than the 1st of October for many years.

In some parts of New York the drought of the preceding months was not effectually broken until after the middle of September, when killing frosts had occurred and put an end to the growth of some important crops. In other States rainfall was generally sufficient, owing to the fact that heavy showers fell toward the close of the preceding month, though in most parts of the district the precipitation was very light from the 1st to the 16th.

The following table exhibits the leading features of meteorological interest for the various sections of the district:

States, or parts of States, within District No. 1.	Temperature.				Precipitation.				Average number of—	
	Average.	Departure.	Highest	Lowest.	Average.	Departure.	Greatest total.	Least total.	Rainy days.	Clear days.
New England	58.6	−1.4	96	19	3.25	−0.20	7.76	1.23	8	16
New York	60.1	−1.1	98	20	3.12	−0.46	8.46	1.35	7	16
Pennsylvania	62.4	−1.5	97	25	3.76	+0.12	8.43	1.78	8	13
New Jersey	64.4	−1.5	96	27	3.87	−0.08	6.55	1.56	9	13
Maryland, Delaware, and District of Columbia	67.4	−0.5	102	32	2.81	−0.67	5.31	1.32	7	14
West Virginia	61.5	−3.2	94	26	2.76	+0.29	3.68	1.44	5	12
Virginia	66.2	−1.7	94	33	2.31	−0.83	4.00	1.39	6	15

TEMPERATURE.

The average temperature for the month was below the normal at about 85 per cent of the stations, the deficiency being close to 1½° at most stations. The monthly mean temperature ranged from 71.8° at Cambridge, Md., to 53.4° at Greenville, Me. Maximum temperatures were considerably higher than usual for September, exceeding 90° even at most stations in Vermont, New Hampshire, and Maine, though they were generally somewhat lower in the coast regions. At Westernport, Md., on the 6th the temperature rose to 102°, the highest recorded in the district during the month.

Temperatures were considerably above the seasonal average until the morning of the 9th when there was a very marked change to cooler. Frosts occurred in some of the colder sections on the 10th and the weather remained cool until about the middle of the third decade, when another warm period set in. On the 15th and 16th freezing temperatures and killing frosts overspread most of the interior of the district southward to central Pennsylvania. The damage to late crops was greater than has resulted from any autumn frost in these sections for many years.

The lowest temperature recorded in the district was 19° at Greenville, Me., but in New York a record of 20° was made as far south as New Lisbon, Otsego County, and in Pennsylvania several stations recorded temperatures below 30°.

PRECIPITATION.

Precipitation was unevenly and irregularly distributed over the district and occurred at unfavorable intervals in many sections. Except in the smaller New England States a variation of 4 inches or more in the total rainfall was noted in each State southward to Maryland. Thirteen stations in the district reported 6 inches or more rainfall. The greatest amount received at any station was 8.46 inches at Mount Hope, N. Y., and the least was 1.23 at Woodstock, Vt. The greatest amount of rainfall for a 24-hour period was 4.05 inches at Chatham, N. J.

In some sections there were generous showers on the 4th, 5th, 8th, and 13th, but extensive areas received very little rain before the 17th of the month. At that time there began a period of rainy weather that continued for five or six days. There was little or no rain during the last week of the month.

The principal storm of the month passed over the district between the 20th and the 23d, the heaviest rainfall at most stations occurring on the 21st and early morning of the 22d. At quite a number of stations in the northern part of the district this storm gave more than 2.50 inches of rain within 24 hours, 4.02 inches falling at Farmington, Me., on the 22d, and perhaps one-third of the district receiving 2 inches or more during the progress of this storm area. Heavy rains with some instances of precipitation at excessive rates occurred also on the 4th, 7th, and 18th or 19th.

The number of rainy days averaged 7, which is slightly less than usual for September.

MISCELLANEOUS.

Rivers were at low to moderate stages throughout the month and without any noteworthy incidents. The amount of sunshine was close to the September normal. The number of hours of sunshine averaged 212, which is 18 more than the average for September last year; the greatest number of hours recorded being 243 at Albany, N. Y., and Atlantic City, N. J., and the least 171 hours at Hartford, Conn. The number of clear days averaged 14, partly cloudy days 8, and cloudy days 8.

RELATION OF PRECIPITATION TO TREE GROWTH.

By MILROY N. STEWART, Cooperative Observer, York, N. Y.

Some time ago I had the fortune to read "The Secret of the Big Trees," by Ellsworth Huntington. His work and its interesting results led me to make a series of measurements of an oak stump near my home. My purpose was to discover, if possible, whether the precipitation of previous years directly affected the ring widths; and, by means of ring measurements, to determine the comparative amounts of rainfall during periods for which no records exist.

The tree, an oak, was cut in February, 1913. The stump measurements were made partly in June and partly in August, 1913. One hundred and thirty-two rings were counted in all, but only the outer 70 have been used, as the inner rings were too compressed to be accurately measured by the instruments at hand.

Within this limit of 70 years, the results are not at all what were hoped for, but nevertheless they show a correlation of growth and rainfall. The chief difficulty lies in the fact that the nearest Weather Bureau station from which records can be secured is Rochester, 25 miles north. The rainfall data are from that station's record, and allowance must be made for considerable possible difference in the amounts at the two places. There is the possibility that two rings may have formed in some year, thus upsetting all calculations, but this does not seem to be the case. Sometimes, too, growth is checked by insect pests. Such may be another source of error.

From a study of precipitation data it first appears that annual rainfalls can not be used, since there may be great winter rains and snows which do not penetrate the frozen ground and have no effect on vegetable growth. Comparisons are therefore confined to the precipitation during the growing season. Hartig says this lasts four months for the oak. According to Freiderich the first period begins the latter part of April and continues through May with a decrease in mid June. Then growth increases to a maximum in July and ceases in mid August. In support of this statement the rainfalls during June and July seem to show closer correspondence, in their variations, with the ring widths than does the rainfall for the whole growing season. No separate measurements were made of the porous and compact woods in the rings. In one case, however, in 1875 an unusually wide spring growth was noted.

The center of growth was northwest of the true center, and as the tree had been felled to the north, leaving a jagged stub, no rings were measured on the north side. The measurements here given were taken on the east, southeast, and south radii, those on the east radius being continued to the center of growth, but not used for comparison. A mean was obtained from the three radii, and the true ring width taken from this. The narrowness of the outer rings can be attributed to the slower growth of the tree in its later years.

Although temperature records have been examined, no conclusion has been reached as to the effect of heat in favoring growth, or vice versa.

Here are some of the facts to be obtained from an examination of the data for the past 75 years:

The average ring width for this time is 4.9 mm.

The normal rainfall from March 1 to September 1 at Rochester is 14.46 inches. That for June and July, 6.26 inches.

Thirty-one years show a mean ring width of 5.8 mm. or more. In 26 of these 31 years there was a rainfall of over 4 inches in at least one month of the growing season (while 3.21 inches is the highest average for any month in the year).

Of 16 years with 6.5 mm. or more, 13 had over 4.50 inches in at least one month of the growing season.

Of 6 years with 7.2 mm. or more, 4 had over 4.60 inches and 3 had over 5 inches.

Sixty-three per cent of the rings are of more than average width, and 62 per cent of these were accompanied by more than average rainfall in June and July.

Of 15 rings less than 4.5 mm., only 3 had normal rainfall in the growing season. Of the 8 which were less than 4 mm., only one had normal rainfall.

SUMMARY.

June and July precipitation seems to have most effect upon the width of oak rings. Decrease of width more than 0.5 mm. below normal would appear to be quite certain indication of a subnormal summer rainfall. On the other hand, an increase in width is not so surely an effect of extra-abundant rainfall, though this holds in 62 per cent of the cases.

In neither case, however, does the width necessarily vary in the same ratio with the rainfall, for there are other unknown factors having a disturbing influence—temperature, insect pests, height of surrounding timber, etc.

To check up these conclusions and develop them to a greater extent, similar experiments should be made on trees nearer to a station from which precipitation records of early date can be obtained.

I wish to thank the following for valuable suggestions: Profs. Herman L. Fairchild, Charles W. Dodge, and William D. Merrell, of Rochester University; and Mr. David Leathersich, Caledonia, N. Y.

ABRIDGED TABLE OF THREE-RING MEASUREMENTS AND PRECIPITATION.

The writer has prepared tables showing ring widths on east, southeast, and south radii, and the mean of these three measurements together with precipitation data as far back as 1843 and east radius measurements as far back as 1785.

Year.	Mean width of ring from measurements on east, southeast, and south radii.	Precipitation.	
		June and July.	March to July, inclusive.
	Millimeters.	*Inches.*	*Inches.*
1912	4.4	3.67	13.64
1911	4.1	6.39	12.97
1910	3.7	4.75	11.33
1909	3.1	1.40	14.30
1908	4.0	8.20	16.19
1907	3.1	3.11	9.47
1906	3.2	6.32	12.45
1905	4.2	9.88	14.92
1904	5.2	6.91	17.20
1903	4.7	6.21	13.43
1902	4.6	8.51	14.14
1901	3.7	5.33	16.20
1900	3.8	6.41	15.84
1899	4.1	3.91	11.85
1898	5.2	2.92	9.92
1897	5.2	8.99	15.09
1896	7.2	7.55	16.60
1895	4.4	3.44	10.48
1894	6.2	6.35	17.09
1893	5.8	3.81	15.28

TABLE 1.—*Climatological data for September, 1913. District No. 1, North Atlantic States.*

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Maine.																			
Bar Harbor	Hancock	20	27	55.8	− 2.8	83	3	32	16	40	2.15	− 1.53	0.84	0	6	22	2	6	se.	William Miller.
Cornish	York	778	58	59.8	+ 1.0	96	3	28	15	47	3.63	+ 0.01	1.94	0	8	14	8	8	ne.	T. H. West.
Eastport	Washington	53	41	54.6	− 0.6	81	3	37	30	27	1.69	− 1.28	0.73	0	10	12	11	7	sw.	U. S. Weather Bureau.
Fairfield	Somerset	90	28	57.2	− 0.5	88	3	30	15	40	2.81	− 0.32	1.45	0	4	13	6	11	.....	E. F. Parker.
Farmington	Franklin	450	16	55.8	− 2.3	91	3	28	15†	41	6.00	+ 2.38	4.02	0	8	13	8	9	nw.	State Normal School.
Gardiner	Kennebec	163	21	58.2	− 1.6	90	3	32	15†	40	4.85	+ 1.61	1.63	0	9	18	2	10	sw.	Samuel D. Soule.
Greenville	Piscataquis	1,140	9	53.4	.....	85	3	30	28†	40	4.30	+ 0.70	2.40	0	8	.....	.....	.....	.....	U. S. Weather Bureau.
Houlton	Aroostook	362	11	54.2	.....	84	2†	30	6†	38	2.10	− 1.03	1.50	0	3	16	7	7	sw.	Bangor & Aroostook R. R.
Lewiston	Androscoggin	185	39	58.2	− 1.0	94	3	34	15	35	4.02	+ 0.49	2.15	0	9	16	6	8	s.	Union Water Power Co.
Madison	Somerset	257	10	55.9	.....	92	4	31	28	41	4.85	+ 0.43	3.50	0	8	21	0	9	s.	William Jardine.
Millinocket	Penobscot	386	10	55.8	.....	86	3	30	30	39	3.79	− 0.71	2.24	0	10	19	2	9	w.	F. C. Bowler.
North Bridgton	Cumberland	450	20	59.8	0.0	95	3	34	16	39	4.16	+ 0.33	1.98	0	8	12	12	6	sw.	G. E. Chadbourne.
Orono	Penobscot	129	44	56.8	− 0.3	90	3	29	16	40	4.42	+ 0.85	1.12	0	9	17	8	5	sw.	Department of Physics.
Patten	do.	550	11	53.4[d]	.....	86[d]	2	26[d]	29	47[d]	1.65	.....	1.00	0	3	16[d]	4[d]	6[d]	sw.	Bangor & Aroostook R. R.
Portland	Cumberland	99	42	58.3	− 1.3	84	3	39	15	26	3.46	+ 0.26	1.69	0	10	16	6	8	nw.	U. S. Weather Bureau.
Presque Isle	Aroostook	.....	4	53.2	.....	84	3	26	10	47	2.01	.....	1.25	0	5	19	6	5	w.	E. M. Libby.
Rumford Falls	Oxford	505	20	57.0	− 0.8	92	3	34	16	34	4.12	+ 0.76	2.65	0	8	19	5	6	nw.	Charles A. Mixer.
Van Buren	Aroostook	510	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. M. Thomas.
Winslow	Kennebec	90	18	56.0	.....	92	3	30	16	42	3.74	+ 0.36	.....	0	9	21	1	8	sw.	Hollingsworth & Whitney Co.
New Hampshire.																				
Alstead Center	Cheshire	1,120	9	57.0	− 2.8	85	3	32	15	33	2.11	− 1.21	0.72	0	9	16	3	11	sw.	Frank Dewing.
Benton	Grafton	.....	4	54.8	.....	89	3	28	15†	40	2.81	.....	.....	0	8	20	2	8	nw.	State Sanatorium.
Bethlehem	do.	1,470	21	55.2	− 1.3	88	3	28	15	39	2.74	− 0.93	1.24	0	5	19	5	6	sw.	Benjamin Tucker.
Concord	Merrimack	350	53	58.3	− 0.8	91	3	28	15	38	3.26	+ 0.05	2.36	0	8	15	5	10	nw.	U. S. Weather Bureau.
Durham	Stafford	88	18	58.6	− 1.9	90	3	30	15	38	1.38	− 2.98	0.48	0	7	21	2	7	ne.	Agricultural Exp. Station.
Franklin	Merrimack	440	14	59.0	− 0.9	91	3	28	15	44	3.16	− 1.10	2.23	0	9	15	8	7	w.	Dr. C. P. Webster.
Grafton	Grafton	863	27	56.4	− 0.5	91	3	19	16	52	2.37	− 1.18	1.60	0	8	21	2	7	nw.	P. R. Kimball.
Hanover	do.	603	79	57.4	− 0.4	93	3	25	16	51	1.69	− 1.15	0.91	0	8	16	5	9	se.	Dartmouth College.
Keene	Cheshire	506	28	57.8	− 1.3	88	2	25	15	46	1.65	− 2.36	0.54	0	11	16	6	8	nw.	Samuel Wadsworth.
Nashua	Hillsboro	125	28	60.8	− 0.3	90	2	31	15	39	3.49	+ 0.12	1.76	0	8	15	2	13	sw.	C. B. Stevens.
Newton	Rockingham	.....	25	57.0	− 3.1	87	3	27	15	39	2.28	− 1.31	0.89	0	8	14	10	6	se.	W. C. Gale.
Plymouth	Grafton	500	25	56.8	− 0.6	90	3	25	16	44	2.91	− 0.63	2.23	0	6	19	1	10	sw.	Hattie G. Trow.
Vermont.																				
Bloomfield	Essex	.....	6	55.2	.....	87	3	26	15	43	2.48	.....	0.98	0	10	15	6	9	s.	Lyman Falls Power Co.
Cavendish	Windsor	910	10	.....	.....	.....	.....	.....	.....	.....	2.75	.....	1.05	0	8	.....	.....	.....	.....	E. D. Kingsbury.
Chelsea	Orange	840	18	54.6	− 1.6	89	3	21	15	47	1.74	− 1.27	0.88	0	7	17	7	6	n.	W. F. Dewey.
Manchester	Bennington	980	14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	N. M. Canfield.
Somerset	Windham	2,096	1	53.6	.....	85	3	24	15	44	3.49	.....	2.04	0	11	12	6	12	sw.	Power Construction Co.
St. Johnsbury	Caledonia	711	20	56.6	− 0.8	91	3	26	15	44	1.45	− 1.80	0.96	0	5	16	7	7	nw.	Fairbanks Museum.
Woodstock	Windsor	700	21	58.0	+ 1.3	90	3	26	15	43	1.23	− 1.50	0.91	0	5	13	4	13	.....	John S. Eaton.
Massachusetts.																				
Amherst	Hampshire	222	24	60.1	− 0.1	88	2	31	15	42	2.56	− 0.97	0.67	0	11	10	8	12	s.	Agricultural Exp. Station.
Blue Hill	Norfolk	640	29	59.2	− 1.8	85	2	35	15	25	2.77	− 1.73	1.04	0	9	14	4	12	sw.	Blue Hill Observatory.
Boston	Suffolk	124	43	62.0	− 0.7	86	3	41	15	24	2.51	− 0.68	0.75	0	9	14	7	9	sw.	U. S. Weather Bureau.
Chestnut Hill	do.	124	33	61.5	− 1.4	87	2	35	15	31	3.07	− 0.20	1.01	0	9	21	2	7	.....	Metropolitan Water Board.
Clinton	Worcester	370	17	59.4	.....	84	2	34	14	30	4.24	.....	.....	0	9	.....	.....	.....	.....	Do.
Concord	Middlesex	139	23	58.4	− 2.7	87	2	28	15	38	3.23	− 0.51	1.03	0	8	13	6	11	s.	Fred A. Tower.
Fall River	Bristol	200	47	61.0	− 2.9	80	8	40	15	21	2.95	− 0.77	0.75	0	9	12	14	4	ne.	C. V. S. Remington.
Fitchburg	Worcester	550	30	60.3	− 0.8	89	2	34	15	34	5.03	+ 1.34	2.83	0	9	16	2	12	e.	Dr. A. P. Mason.
Framingham	Middlesex	160	33	60.8	− 1.2	86	2	31	15	35	3.89	+ 0.76	1.11	0	8	.....	.....	.....	.....	Metropolitan Water Board.
Hyannis **	Barnstable	31	22	60.6	− 4.0	78	2	41	15	18	3.07	+ 0.57	0.75	0	9	17	8	5	.....	C. F. Sleeper.
Lawrence	Essex	51	29	60.6	− 1.2	90	2	35	15	36	2.41	− 0.97	0.64	0	8	14	10	6	sw.	Essex Co.
Lowell	Middlesex	100	28	62.0	0.0	87	2	35	15	34	3.72	+ 0.36	1.56	0	6	.....	.....	.....	.....	Props. Locks & Canals.
Middleboro	Plymouth	53	27	59.1	− 1.8	84	2	30	15†	38	2.77	− 1.22	0.88	0	9	5	13	12	ne.	A. R. Gurney.
Nantucket	Nantucket	47	27	61.6	− 1.2	79	2	47	16	19	7.76	+ 5.03	3.15	0	10	12	11	7	sw.	U. S. Weather Bureau.
New Bedford	Bristol	88	101	59.2	− 2.7	80	2	38	15	20	3.48	− 0.06	0.92	0	8	17	4	9	sw.	City Engineer.
Norfolk	Norfolk	244	10	59.6	.....	91	3	24	15	43	4.37	.....	1.63	0	6	18	4	8	e.	Ruby H. Martyn.
Plymouth	Plymouth	.....	28	57.9	.....	81	9	38	15†	30	3.73	.....	1.05	0	7	16	0	14	e.	Laura B. Knapp.
Provincetown	Barnstable	40	26	60.6	− 3.2	76	3	44	16	20	3.27	+ 0.01	1.03	0	7	18	0	12	sw.	Gideon Bowley.
Rockport	Essex	25	11	59.4	.....	81	8	42	28	22	2.64	.....	0.70	0	9	13	8	9	sw.	C. F. P. Bearse.
Rutland	Worcester	1,160	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	State Sanatorium.
Turners Falls	Franklin	200	22	59.4	− 1.4	83	2	32	15	34	2.83	− 0.59	0.83	0	8	16	3	11	.....	Turners Falls Co.
Westboro	Worcester	298	39	62.0	− 0.5	87	2	34	15	36	4.03	+ 1.04	1.20	0	6	.....	.....	.....	.....	G. S. Newcomb.
Williamstown	Berkshire	711	32	57.7	− 1.3	85	3	29	15	35	2.92	+ 0.04	1.30	0	7	19	3	8	n.	Williams College.
Worcester	Worcester	518	21	60.4	− 1.0	85	2	38	15	29	5.04	+ 1.93	2.04	0	10	13	5	12	ne.	G. W. Swan.
Rhode Island.																				
Block Island	Newport	26	33	62.2	− 1.9	77	3	48	15	14	3.09	+ 0.09	1.00	0	9	12	5	13	ne.	U. S. Weather Bureau.
Bristol	Bristol	53	27	60.9	− 2.8	77	8	42	15†	21	2.59	− 0.96	0.82	0	9	20	1	9	sw.	N. G. Herreshoff.
Kingston	Washington	250	24	58.8	− 3.6	81	2	35	28	28	3.12	− 0.74	1.05	0	8	15	3	12	sw.	Nathaniel Helme.
Narragansett Pier	Newport	22	31	60.6	− 2.1	79	4	38	16	29	3.08	− 0.18	0.92	0	10	18	5	7	sw.	U. S. Weather Bureau.
Providence	Providence	182	9	60.4	− 2.8	84	3†	39	15	26	2.90	− 0.29	1.02	0	9	13	7	10	sw.	Do.
Connecticut.																				
Bridgeport	Fairfield	20	20	61.8	.....	88	4†	38	15	29	3.12	.....	0.77	0	9	16	7	7	s.	William Jennings.
Canton	Hartford	900	52	59.7	+ 0.8	85	3	32	15	36	4.23	+ 0.38	1.52	0	7	14	5	11	sw.	G. J. Case.
Colchester	New London	370	27	59.8	− 2.4	84	2	32	15	35	3.54	+ 0.54	0.94	0	8	13	6	11	e.	S. P. Willard.
Cream Hill	Litchfield	1,300	17	57.9	− 3.4	83	2	35	15	36	3.81	− 0.71	1.00	0	9	20	1	9	sw.	C. L. Gold.
Danielson	Windham	300	11	61.1	.....	84	2	34	16	32	3.27	.....	1.70	0	5	17	4	9	n.	F. E. Bitgood.
Hartford	Hartford	159	9	61.4	− 0.3	87	2	38	15	32	3.56	+ 0.06	0.77	0	10	8	10	12	s.	U. S. Weather Bureau.
Hawleyville	Fairfield	600	15	61.0	− 1.7	89	4	30	16	38	3.80	− 1.16	1.10	0	9	11	10	9	nw.	C. B. Hawley.
New Haven	New Haven	127	126	62.6	− 1.3	86	8	40	15	25	2.52	− 1.27	0.63	0	8	12	8	10	n.	U. S. Weather Bureau.
New London	New London	47	43	63.2	− 0.2	84	4	40	15‡	29	4.13	+ 0.75	1.40	0	8	14	7	9	sw.	Thos. C. Dillon.
North Grosvenor Dale	Windham	400	23	59.0	− 2.4	86	2†	29	14	35	3.98	+ 1.15	2.37	0	7	18	2	10	ne.	Grosvenor Dale Co.
Norwalk	Fairfield	116	23	61.6	− 0.9	87	4	36	15†	32	3.58	+ 0.30	1.10	0	10	20	4	6	sw.	George C. Comstock.
Southington	Hartford	140	44	60.2	− 1.8	82	2	33	15†	34	3.95	+ 0.91	1.00	0	8	12	11	7	n.	Luman Andrews.
Storrs	Tolland	640	25	60.4	− 0.5	82	2	34	28	36	2.60	− 0.85	0.92	0	6	21	0	9	s.	Agricultural Exp. Station.
Torrington	Litchfield	625	12	58.7	.....	86	3	29	15	36	4.13	.....	1.20	0	9	7	11	12	nw.	Prof. E. H. Forbes.
Voluntown	New London	260	28	57.8	− 3.4	86	2	27	15	42	3.15	− 0.26	0.93	0	6	18	9	2	sw.	J. L. Herbert.
Waterbury	New Haven	400	38	62.4	− 0.8	88	2	33	15	36	3.37	− 0.12	0.86	0	9	.....	.....	.....	.....	N. J. Welton.

TABLE 1.—*Climatological data for September, 1913. District No. 1*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Sky.				Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
New York.																				
Addison	Steuben	1,000	23	62.0	− 0.2	98	3	29	15	47	1.76	− 1.15	0.80	0	5	20	4	6	sw.	Dr. H. R. Ainsworth.
Albany	Albany	97	92	61.7	− 0.6	89	2	35	15	33	1.79	− 1.39	0.91	0	7	18	6	6	s.	U. S. Weather Bureau.
Alfred	Allegany	1,976	18	59.8	0.0	92	3	28	14†	42	1.60	− 1.83	0.65	0	6					F. S. Place.
Amsterdam	Montgomery	277	9	59.2	.....	94	3	27	15	43	2.08	.....	1.51	0	5	19	1	10	e.	Emery Elmwood.
Athens	Greene	90	11	62.4	− 0.9	90	2	32	15	35	2.02	− 2.25	1.22	0	6	15	8	7	sw.	E. C. Brooks.
Ballston Lake	Saratoga	400	9	58.6	.....	87	2†	24	15	43	2.49	.....	2.03	0	5	16	5	9	s.	Geo. R. Schauber.
Bedford	Westchester	450	22	61.4	− 2.9	86	4	37	16	31	4.35	+ 0.32	1.09	0	10	11	16	3	.....	Dr. L. Rosenberg.
Beerston	Delaware	1,214	1	61.2	.....	89	2	29	15	41	2.71	.....	1.39	0	8	17	3	10	w.	John Q. Barlow.
Binghamton	Broome	875	22	61.1	+ 1.1	90	3	29	15	37	2.93	+ 0.16	2.37	0	7	9	7	14	ne.	U. S. Weather Bureau.
Bouckville	Madison	1,350	16	58.9	− 0.8	90	3	27	15	35	3.18	+ 0.20	2.04	0	9	11	6	13	nw.	L. W. Griswold.
Boyds Corners	Putnam	560	31								4.88	+ 0.30								Thos. Manning.
Carmel	do	500	21	60.8	− 2.6	86	2	36	15	34	4.46	− 0.33	1.91	0	7	15	2	13	nw.	Do.
Chatham	Columbia	470	12	60.4	− 1.4	88	2	30	15	38	3.04	− 0.69	1.60	0	7	17	5	8	n.	Morton R. Tank.
Cooperstown	Otsego	1,250	59	57.8	− 0.5	85	3	27	15	40	2.73	− 0.69	1.37	0	7	23	2	5	s.	Miss Elizabeth C. Keese.
Corinth	Saratoga	542	11								2.27	.....	1.24	0	6					A. M. Hollister.
Cortland	Cortland	1,129	51	60.2	+ 2.3	91	3†	26	15	39	2.35	− 1.07	1.70	0	8	18	5	7	nw.	F. G. Baker.
Cutchogue	Suffolk	32	14	63.8	− 1.9	84	2	41	16	29	2.96	− 1.13	0.73	0	9	14	12	4	sw.	Wm. A. Fleet.
De Ruyter	Madison	1,300	10	58.5	− 1.4	92	3	22	15	49	3.20	− 0.88	1.15	0	8	15	6	9	nw.	B. D. Crandall.
Elmira	Chemung	863	30	61.4	− 1.4	92	3	33	15	38	3.27	+ 0.45	2.50	0	5	14	6	10	sw.	T. A. Brown.
Glens Falls	Warren	340	22	60.6	0.0	91	3	30	15	42	2.02	− 1.60	1.75	0	4	13	6	11	sw.	Prof. C. L. Williams.
Gloversville	Fulton	850	21	58.4	− 1.0	91	3	25	15	43	2.89	− 0.68	2.20	0	7	14	11	5	w.	W. L. McLean.
Greenfield Center	Saratoga	314	15	59.0	− 2.2	88	2	29	15	40	2.06	− 2.32	1.35	0	4	18	5	7	sw.	S. E. Darrows.
Griffin Corners	Delaware	2,260	13																	Harold O. Judd.
Haskinville	Steuben		18								1.35	− 1.37	0.90	0	3					W. G. Collins.
Hoosick Falls	Rensselaer	410	11								1.73	.....	0.55	0	7					S. L. Cluett.
Indian Lake	Hamilton	1,705	14	54.4	− 2.8	91	3	20	15	48	2.77	− 0.95	2.00	0	6	17	8	5	w.	Lester Severie, jr.
Jeffersonville	Sullivan	1,240	10	59.0	.....	88	2	28	15	42	3.48	.....	1.93	0	6	19	4	7	se.	Chas. Wilfert, jr.
Liberty	do	2,300	31	58.3	+ 0.3	82	3†	33	16	37	4.73	+ 1.01	1.35	0	9	18	3	9	se.	Dr. H. M. King.
Little Falls	Herkimer	924	15	58.8	− 1.6	92	3	29	15	35	2.26	− 1.13	1.50	0	6	22	3	5	w.	O. J. Dempster.
Mohonk Lake	Ulster	1,245	17	60.8	− 0.5	85	2	36	15	29	4.05	− 0.97	1.75	0	9	18	3	9	nw	Daniel Smiley.
Morehouseville	Hamilton	1,697	5	54.3	.....	87	1	23	15	41	2.57	.....	1.96	0	3	27	2	1	w.	T. C. Remonda.
Morrisville	Madison	1,325	1	58.7	.....	89	3†	23	15	41	2.92	.....	2.50	0	5	23	3	4	nw.	I. M. Charlton.
Mount Hope	Westchester	200	16	62.9	− 1.1	83	2	38	16	29	8.46	+ 4.52	1.75	0	9	6	14	10	.....	W. A. Cornelius.
Mount McGregor	Saratoga	1,060	1	62.7	.....	87	1	37	15	28	1.81	.....	1.15	0	3	21	5	4	.....	W. S. Stanton.
Newark Valley	Tioga	825	26								2.73	− 0.41	1.90	0	5					Lyman D. Clinton.
New Berlin	Chenango	1,090	6								2.72	.....	2.01	0	7					Chas. F. Sarle.
New Lisbon	Otsego	1,234	23	55.8	− 1.6	88	3	20	15	47	2.24	− 1.48	1.40	0	8	11	11	8	nw.	G. A. Yates.
New York City	New York	314	88	64.6	− 1.9	85	8	47	14	20	5.28	+ 1.69	3.44	0	11	9	7	14	sw.	U. S. Weather Bureau.
North Creek	Warren	1,002	5	56.9	.....	94	3	26	16	46	2.70	.....	2.50	0	3	19	2	9	.....	W. G. Kenwell.
Northville	Fulton	742	11								2.31	.....	1.68	0	5					P. C. Pickard.
Oneonta	Otsego	1,112	19	59.9	− 2.0	90	2†	28	15	42	1.87	− 1.63	0.88	0	6	16	6	8	sw.	H. W. Lee.
Oxford	Chenango	916	48	59.0	− 0.1	86	2†	27	15	38	3.20	− 0.40	1.47	0	6	11	11	8	se.	J. P. Davis.
Oyster Bay	Nassau	40	9																	Prof. Thos. Colby.
Port Jervis	Orange	470	29	61.5	− 1.8	89	4	31	15†	44	2.54	− 1.29	0.99	0	8	15	7	8	nw.	W. H. Nearpass.
Roslyn	Nassau	215	1	62.8	.....	86	8	40	15	26	2.95	.....	1.03	0	10	19	4	7	sw.	C. H. Hechler.
Salisbury	Herkimer	1,526	16	55.6	− 3.6	87	2	22	15	38	2.35	− 1.59	1.72	0	4	19	9	2	w.	Joseph Ryan.
Scarsdale	Westchester	200	9	62.0	.....	85	4	38	15	34	4.13	.....	2.00	0	9	18	4	8	ne.	C. H. Wilmarth.
Setauket	Suffolk	40	28	63.2	− 1.8	84	4	42	16	24	3.79	+ 0.18	0.97	0	10	15	6	9	s.	Selah B. Strong.
Sharon Springs	Schoharie	821	9	59.5	.....	91	3	25	15	46	1.89	.....	1.22	0	8	17	6	7	nw.	Wm. M. Kling.
Sherburne	Chenango		6								2.69	.....	2.23	0	3					D. G. Trow.
Southampton	Suffolk	36	12	63.0	− 1.5	82	8	40	15	25	3.99	+ 0.72	1.00	0	10	16	9	5	se.	W. L. Jagger.
Southeast Reservoir	Putnam	310	18								3.42	− 0.83								Thos. Manning.
South Edmeston	Otsego	1,300	1	59.3	.....	90	2†	22	15	50	2.39	.....	1.63	0	5	18	7	5	sw.	F. H. Bilderbeck.
Spier Falls	Saratoga	400	12	58.6	− 1.4	92	3	28	14	38	2.01	− 2.00	1.29	0	6	13	9	8	s.	Geo. E. Fifield.
Trenton Falls	Oneida	751	10								2.83	.....	1.87	0	4					C. W. Young.
Tribeshill	Montgomery	268	10								2.10	.....	1.30	0	4					R. S. Marshall.
Troy	Rensselaer		0	63.8	.....	92	2	34	15	35						15	8	7	.....	David B. Plum.
Utica	Oneida	537	47								3.28	− 0.29	2.20	0	7					W. E. Young.
Wading River	Suffolk	112	7	62.7	.....	88	1	37	16	32	4.11	.....	0.92	0	9	18	7	5	sw.	H. B. Fullerton.
Wappingers Falls	Dutchess	110	23	61.4	− 2.1	82	8	36	15	29	2.58	− 1.42	0.92	0	10	14	8	8	ne.	H. C. Townsend.
Warwick	Orange	538	19								3.08	− 1.05	1.42	0	7	15	8	7	.....	John W. Sly.
Waverly	Tioga	824	31	61.0	− 0.7	95	3	25	15	48	2.53	− 0.45	1.60	0	6	11	6	13	n.	J. F. Shoemaker.
West Berne	Albany	946	14	58.3	.....	85	2	23	15	45	3.20	.....	1.61	0	8	10	10	10	se.	W. J. Haverly.
West Point	Orange	167	64	64.4	− 0.4	87	1†	40	16	32	6.52	+ 2.78	1.33	0	9	6	12	12	w.	U. S. Military Academy.
Windham	Greene	1,520	13	58.6	− 1.0	88	3	24	15	43	3.24	− 0.13	2.05	0	6	15	11	4	sw.	A. R. Mott.
Pennsylvania.																				
Altoona	Blair	1,181	25	61.0	− 2.0	89	2†	34	23†	34	4.48	+ 1.72	2.00	0	11	17	5	8	w.	S. A. Gailey.
Catawissa	Columbia	470	4	63.0	.....	85	2†	38	23†	30	4.10	.....	2.64	0	9	14	8	8	.....	Wm. G. Yetter.
Drifton	Luzerne	1,633	15	57.5	− 3.0	83	2	30	15†	34	4.39	+ 0.44	2.10	0	9	18	5	7	w.	Eckley B. Coxe, jr.
Doylestown	Bucks	347	23								5.43	+ 1.09	3.12	0	8					Alfred W. Walton.
Emporium	Cameron	1,050	26	59.2	− 1.3	85	3	29	14	39	1.85	− 2.10	1.00	0	4	13	10	7	w.	T. B. Lloyd.
Ephrata	Lancaster	384	13	64.0	− 2.5	94	5	37	23†	34	4.76	− 1.28	1.62	0	9	17	5	8	s.	W. L. Frantz.
Everett	Bedford	1,080	15	61.0	− 2.2	90	6	30	23	43	2.17	− 0.47	0.99	0	6	6	14	10	nw.	B. L. Steckman.
George School	Bucks	184	6	64.3	.....	92	4	34	16	38	3.91	.....	1.47	0	11	18	4	8	e.	N. W. Swayne.
Gettysburg	Adams	600	39	64.0	− 0.3	96	5	34	23	44	2.53	− 0.64	2.02	0	11	15	6	9	nw.	Col. E. B. Cope.
Gordon	Schuylkill	804	9	61.1	.....	93	5	29	23	39	5.15	.....	3.30	0	7	17	5	8	w.	Capt. J. G. Johnson.
Hamburg	Berks	380	17	65.0	− 1.2	92	5	38	14	38	4.12	− 0.12	1.29	0	9	15	6	9	se.	W. J. Kalbach.
Hanover	York	600	9	66.0	.....	94	5	37	23	37	3.94	.....	1.50	0	9	17	5	8	e.	Miss Mabel Champlin.
Harrisburg	Dauphin	361	25	64.6	− 0.3	92	5	42	23	31	3.51	+ 0.66	1.87	0	12	8	9	13	e.	U. S. Weather Bureau.
Huntingdon	Huntingdon	650	25	62.3a	− 2.2	95a	5	32a	23†	44a	2.28	− 1.00	1.49	0	8	12	9	9	e.	Prof. W. J. Swigart.
Hyndman	Bedford	977	6	62.2	.....	96	5	29	23	46	2.80	.....	2.05	0	4	13	9	8	w.	H. Somers Fischer.
Lancaster	Lancaster	255	20	63.0	.....	94	5	35	23	35	8.43	+ 4.27	3.85	0	7	15	9	6	n.	F. H. Shaw.
Lawrenceville	Tioga	1,006	15	60.0	− 1.4	93	3	28	15†	46	3.60	+ 0.32	2.10	0	6	15	11	4	.....	C. P. Darling.
Le Roy	Bradford	1,400	24	61.2	− 0.9	90	3	32	15	36	3.31	+ 0.26	2.50	0	7	15	7	8	sw.	G. W. T. Warburton.
Lewisburg	Union	450	39	62.1e	− 1.0	91	5	33	15	36e	2.68	− 0.77	1.78	0	7	15	3	12	s.	Prof. W. G. Owens.
Lock Haven	Clinton	560	25	63.7	− 1.2	94	5	33	15	41	3.21	− 0.33	2.13	0	6	12	11	7	w.	Prof. J. A. Robb.
Marion	Franklin	640	9	65.2	.....	95	5	34	23	44	3.15	.....	2.16	0	7	20	4	6	.....	Hon. C. B. Hege.
Mauch Chunk	Carbon	634	24	62.8	− 1.6	92	5	34	15	37	4.38	+ 0.36	2.31	0	11	15	6	9	w.	F. C. Wintermute.
Mifflintown	Juniata	445	9	62.6	.....	95	5	31	15	42	5.16	.....	3.97	0	10	12	4	14	w.	Wellington Smith.
Milford	Pike	455	10	59.8	− 2.3	90	4	29	15†	41	2.73	− 1.53	1.38	0	9	11	13	6	sw.	Mrs. Alla Doughty.
Montrose	Susquehanna	1,658	9	59.0	.....	85	4	25	16	43	3.67	.....	3.25	0	5	12	10	8	s.	Silas Jagger.
New Germantown	Perry	873	9	63.2d	.....	97	3	30d	14	42d	2.47	.....	1.91	0	4	14d	0d	12d	w.	Ed. C. Johnston.

TABLE 1.—*Climatological data for September, 1913. District No. 1*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, 0.01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
***Pennsylvania*—Contd.**																				
Philadelphia	Philadelphia	117	42	67.0	− 0.4	89	5	48	15	22	4.24	+ 0.86	1.74	0	11	7	13	10	ne.	U. S. Weather Bureau.
Reading	Berks	280	40	64.6	− 1.8	91	5	42	16	28	5.37	+ 1.94	2.13	0	11	9	7	14	se.	Do.
Scranton	Lackawanna	805	13	62.4	+ 0.2	88	4	37	15	34	3.87	+ 1.01	3.10	0	9	10	8	12	s.	Do.
Selinsgrove	Snyder	455	25	63.8	− 1.0	94	5	34	23	40	3.41	− 0.05	2.10	0	7	0	22	8	nw.	J. M. Boyer, C. E.
Spring Mount	Montgomery	155	24	.....	.....	.....	.....	.....	.....	.....	2.81	− 1.20	1.13	0	12	.....	.....	.....	.....	James F. Smith.
State College	Center	1,191	25	58.4	− 4.5	88	5	33[a]	23	36[a]	2.29	− 0.54	1.14	0	9	.....	.....	.....	nw.	Prof. Wm. Frear.
Stroudsburg	Monroe	425	3	61.9	.....	90	4	33	15†	37	4.57	.....	2.19	0	8	12	10	8	sw.	J. Clyde Le Bar.
Towanda	Bradford	754	18	61.3	− 1.3	90	3	29	15	41	2.80	− 0.13	1.70	0	9	15	4	11	s.	Hiram E. Bull, C. E.
West Chester	Chester	455	59	66.0	+ 0.8	90	5	42	23	29	3.29	− 1.06	1.39	0	12	9	11	10	se.	J. C. Green, D. D. S.
Williamsport	Lycoming	530	23	63.4	− 0.6	90	7	37	23	36	4.55	+ 1.34	3.62	0	5	18	2	10	nw.	Henry H. Guise.
New Jersey.																				
Asbury Park	Monmouth	22	25	64.6	− 2.3	86	8	43	23	28	2.52	− 0.72	0.61	0	9	9	9	12	ne.	H. E. Denegar.
Atlantic City	Atlantic	16	40	66.8	− 0.8	86	8	46	23	20	3.10	+ 0.05	1.79	0	9	7	14	9	e.	U. S. Weather Bureau.
Bayonne	Hudson	50	23	65.0	− 1.8	88	8	42	15	26	3.87	− 0.02	1.28	0	11	13	5	12	s.	Erskine R. Eadie.
Belvidere	Warren	289	22	63.4	− 1.7	84	4†	38	16	34	6.48	+ 2.56	2.50	0	7	22	4	4	.....	Samuel J. Hixson.
Bergen Point	Hudson	37	16	64.6	− 2.1	86	8	44	15†	25	3.73	− 0.80	1.15	0	9	14	11	5	sw.	Wm. H. Mitchell, M. D.
Boonton	Morris	239	23	.....	.....	.....	.....	.....	.....	.....	2.88	− 1.61	1.54	0	10	.....	.....	.....	.....	Joseph White.
Bridgeton	Cumberland	30	32	67.4	− 0.8	91	4†	42	23	31	5.23	+ 1.42	2.20	0	5	17	3	10	ne.	Henry A. Jorden.
Burlington	Burlington	12	27	65.8	.....	90	5	43	16	34	4.82	+ 0.90	1.56	0	8	18	7	5	sw.	D. S. B. McCoy.
Cape May City	Cape May	17	35	67.8	− 1.2	87	8	48	16	22	1.56	− 1.44	0.94	0	10	6	20	4	ne.	U. S. Weather Bureau.
Charlotteburg	Passaic	719	21	60.6	− 1.7	86	4	27	16	41	5.30	+ 0.62	1.81	0	6	14	11	5	se.	George S. Briggs.
Chatham	Morris	234	11	.....	.....	.....	.....	.....	.....	.....	6.55	+ 1.82	4.05	0	10	.....	.....	.....	.....	M. A. Butler.
Clayton	Gloucester	126	20	64.6	− 2.1	88	1†	40	16†	30	5.03	+ 1.01	1.54	0	8	18	1	11	sw.	William T. Farley.
Culvers Lake	Sussex	848	12	.....	.....	.....	.....	.....	.....	.....	3.30	− 0.51	1.17	0	11	17	4	9	e.	Brice E. Riker.
Dover	Morris	600	29	59.7	− 2.9	82	3†	32	16	33	2.60	− 1.88	1.25	0	10	5	13	12	.....	William C. Harris.
Elizabeth	Union	45	34	64.4	− 2.6	87	8	38	16	31	3.35	− 0.71	1.00	0	7	15	7	8	se.	L. B. Bonnett.
Flemington	Hunterdon	140	25	65.3	+ 0.2	88	1†	39	16	34	4.58	+ 0.60	1.72	0	11	14	8	8	w.	Hiram E. Deats.
Haddonfield	Camden	75	26	65.4	− 0.6	88	5	42	16	28	3.76	+ 0.02	1.46	0	11	7	15	8	w.	Charles F. Richardson.
Hammonton	Atlantic	103	15	.....	.....	.....	.....	.....	.....	.....	4.83	+ 1.17	1.53	0	8	.....	.....	.....	.....	G. F. Lenz.
Highwood	Bergen	90	26	61.7	− 2.5	84	8	36	16	30	3.37	− 0.79	1.06	0	8	10	6	14	nw.	Charles J. Bates.
Imlaystown	Monmouth	185	25	64.6	− 2.5	96	8	40[a]	23	36	2.98	− 1.33	0.75	0	7	15	8	7	s.	H. E. Bullock.
Indian Mills	Burlington	76	24	65.4	− 0.7	92	5	36	16	37	4.42	+ 0.25	1.26	0	12	11	12	7	e.	James Armstrong.
Jersey City	Hudson	10	15	65.4	− 1.8	87	8	45	16	23	4.63	+ 0.92	2.25	0	10	13	4	13	ne.	Samuel K. Pearson, jr.
Little Falls	Passaic	175	11	.....	.....	.....	.....	.....	.....	.....	2.94	− 1.66	0.96	0	10	15	2	13	w.	A. Sweetman.
Long Branch	Monmouth	25	6	64.0	.....	88	8	43	23	25	3.68	.....	1.43	0	12	10	8	12	w.	William D. Martin, jr.
Mahwah	Bergen	312	11	.....	.....	.....	.....	.....	.....	.....	6.18	+ 1.62	2.45	0	8	.....	.....	.....	.....	Charles L. Barker.
Moorestown	Burlington	75	51	65.1	− 0.9	90	5	41	16	32	3.74	− 0.02	1.11	0	10	15	9	6	se.	George L. Gillingham.
Newark	Essex	159	70	65.4	− 0.5	87	4†	44	15	28	4.79	+ 0.94	1.25	0	11	15	6	9	nw.	Prof. William Weiner.
New Brunswick	Middlesex	139	60	63.2[a]	− 2.8	86	3†	38	16	29	3.09	− 0.76	0.71	0	10	15	4	11	ne.	Earle C. Stillwell.
Newton	Sussex	678	34	61.8	− 1.8	86	2	35	15†	37	3.43	− 0.25	1.26	0	8	15	3	12	sw.	F. Vernon Losee.
Northfield	Atlantic	25	6	.....	.....	.....	.....	.....	.....	.....	2.09	.....	1.64	0	9	.....	.....	.....	.....	William L. Flick.
Paterson	Passaic	80	42	64.8	− 1.4	87	4	40	16	32	2.84	− 1.60	0.79	0	7	9	13	8	s.	Heber A. Probert.
Phillipsburg	Warren	363	23	64.5	− 0.9	89	4	38	16	35	3.15	− 0.63	1.34	0	9	16	10	4	w.	D. W. Smith.
Plainfield	Union	100	27	64.2	− 1.0	88	8	40	14†	31	3.44	− 1.01	1.23	0	12	9	11	10	sw.	John Neagle.
Pleasantville	Atlantic	26	15	.....	.....	.....	.....	.....	.....	.....	3.09	− 0.32	1.73	0	9	19	6	5	.....	Lincoln Van Gilder.
Pompton Plains	Morris	195	11	.....	.....	.....	.....	.....	.....	.....	3.20	.....	1.48	0	10	.....	.....	.....	.....	M. S. Taylor.
Somerville	Somerset	60	30	64.6	− 0.7	91	3	35	16	37	2.65	− 1.01	0.86	0	9	17	4	9	e.	A. A. Macdonald.
South Orange	Essex	200	43	63.0	− 1.1	86	4	40	16	26	2.95	− 1.14	1.04	0	8	.....	.....	.....	w.	Dr. William J. Chandler.
Sussex	Sussex	442	23	61.8	− 2.1	89	4	32	16	41	3.27	− 0.64	1.50	0	6	11	5	14	sw.	George Dymock.
Trenton	Mercer	190	42	65.2	− 2.0	90	5	44	15	28	4.66	+ 0.72	1.44	0	11	9	7	14	ne.	U. S. Weather Bureau.
Vineland	Cumberland	118	44	66.6	− 0.3	91	5	42	16	34	6.41	+ 2.57	2.20	0	7	13	12	5	nw.	Alfred Chalmers.
Woodbine	Cape May	43	22	66.1[a]	− 0.2	86[a]	5†	40[b]	16	38[b]	3.65	− 0.38	0.95	0	10	.....	.....	.....	.....	Prof. R. D. Maltby.
West Virginia.																				
Bayard	Grant	2,500	11	57.6	− 3.3	90	2	26	23	50[a]	3.68	+ 0.48	1.50	T.	8	15[a]	7[a]	7[a]	w.	Solomon Clark.
Burlington	Mineral	875	19	62.1	− 3.0	93	6	30	23	45	2.15	− 0.82	1.25	0	3	10	12	8	w.	J. W. Vandiver.
Franklin	Pendleton	.....	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Fred Calhoun.
Lost City	Hardy	.....	7	61.2	.....	86	4	32	23	31	1.70	.....	0.65	0	7	11	14	5	e.	B. D. Hinegardner.
Martinsburg	Berkeley	435	21	64.6	− 2.1	94	5†	31	23†	41	2.89	+ 0.26	1.51	0	5	20	5	5	se.	G. W. Van Metre, C. E.
Moorefield	Hardy	900	18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	John C. Fisher.
Romney	Hampshire	824	17	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. F. Staub.
Upper Tract	Pendleton	1,230	15	62.2	− 4.4	94	6	33	14†	45	3.39	+ 1.24	2.25	0	4	5	20	5	w.	J. M. Mallow.
Maryland.																				
Annapolis	Anne Arundel	45	41	71.4	+ 1.7	91	20	48	23	29	3.22	− 1.78	1.80	0	7	9	8	13	se.	U. S. Naval Academy.
Baltimore	Baltimore	115	43	68.4	− 0.2	92	7	47	23	25	1.51	− 2.34	1.16	0	7	9	13	8	s.	U. S. Weather Bureau.
Cambridge	Dorchester	25	15	71.8	+ 1.0	95	7	41	23	33	2.75	− 0.81	0.55	0	8	10	15	5	nw.	T. E. Keenan.
Cheltenham	Prince Georges	230	13	67.2	− 0.8	90	6†	36	23	34	3.35	+ 0.13	1.10	0	6	16	6	8	nw.	George Hartnell.
Chestertown	Kent	80	27	69.2	+ 1.5	92	4	43	16†	31	1.90	− 1.87	0.86	0	6	14	16	0	e.	M. W. Thomas.
Chewsville	Washington	530	16	64.8	− 1.7	94	5	34	23	45	3.23	+ 0.83	1.48	0	8	13	13	4	se.	D. Paul Oswald.
Clear Spring	do	650	15	63.6	− 2.3	94	5	36	23	35	2.54	+ 0.18	0.88	0	6	14	11	5	ne.	W. W. Frantz.
Coleman	Kent	80	13	68.8	− 0.7	90	4†	45	23	38	2.14	− 1.86	0.99	0	6	21	3	6	sw.	J. S. Harris.
College Park	Prince Georges	170	22	66.6	− 1.6	92	7	35	23	42	2.23	− 1.25	1.50	0	4	13	9	8	nw.	Prof. H. J. Patterson.
Cumberland	Allegany	623	39	65.6	.....	97	6	33	23	37	2.06	− 0.57	1.25	0	6	13	5	12	w.	F. E. Harrington.
Darlington	Harford	300	22	64.6	− 1.7	88	4†	37	24	36	2.63	− 1.45	1.66	0	6	12	9	9	sw.	Prof. A. F. Galbreath.
Denton	Caroline	42	18	67.7	− 1.0	92	6	38	23	34	2.56	− 1.33	0.94	0	7	23	2	5	w.	H. B. Mason.
Easton	Talbott	35	22	67.6	− 1.0	91	6	42	23	27	2.72	− 0.45	1.81	0	5	12	13	5	sw.	Henry Shreve.
Emmitsburg	Frederick	720	41	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James J. White.
Fallston	Harford	450	43	65.7	0.0	88	7	38	22	35	2.24	− 2.22	1.62	0	5	4	22	4	se.	J. H. Curtiss.
Frederick	Frederick	275	38	66.8	− 0.3	97	5	36	23	40	1.74	− 1.51	1.36	0	6	19	2	9	se.	Chas. S. Birely.
Frostburg	Allegany	1,929	6	63.7	.....	94	5	32	23	40	5.31	.....	3.26	0	12	7	18	5	ne.	R. A. Walter.
Great Falls	Montgomery	200	23	.....	.....	93	7	.....	.....	.....	1.78	− 1.46	1.09	0	5	17	7	6	se.	Chas. E. Sullivan.
Green Spring Furnace	Washington	450	21	65.9	− 1.2	96	5	35	23	46	3.97	+ 1.48	1.33	0	7	19	4	7	se.	E. G. Kinsell.
Keedysville	do	400	9	65.9	.....	95	5	35	23	44	2.39	.....	1.35	0	8	17	6	7	se.	J. A. Miller.
Lake Montebello	Baltimore	200	4	67.2	.....	92	7	41	23	32	1.32	.....	0.90	0	5	19	4	7	e.	Martin L. Dobler.
Laurel	Prince Georges	150	19	65.5	− 2.8	90	8	36	23	35	1.60	− 2.11	1.20	0	4	16	9	5	.....	Dr. T. M. Baldwin.
Leonardtown	St. Marys	100	3	68.4	.....	93	7	40	23	32	2.73	.....	1.05	0	9	19	8	3	s.	Brother Fidelis.
Monrovia	Frederick	630	28	65.8	− 0.7	94	7	36	23	36	2.73	− 0.79	2.34	0	7	14	7	9	s.	J. H. Lawson.
Pocomoke City	Worcester	37	20	70.8	+ 0.5	90	7	50	23†	22	4.39	+ 1.34	2.37	0	8	14	10	6	sw.	Hon. R. M. Stevenson.
Princess Anne	Somerset	17	20	67.5	− 0.7	88	6†	41	23	32	2.36	− 0.58	0.97	0	9	6	17	7	sw.	J. R. Stewart.
Rockville	Montgomery	421	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. G. E. Lewis.

TABLE 1.—*Climatological data for September, 1913. District No. 1*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, 0.01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Maryland—Continued.																				
Salisbury	Wicomico	23	8	69.3[a]	.....	93[a]	6	40	23	36[a]	2.82	.....	1.16	0	10	13	16	1	e.	W. E. Downing.
Solomons	Calvert	20	22	71.7	− 0.1	94	7	50	23	29	1.82	− 0.90	0.81	0	8	8	8	14	e.	Dr. W. H. Marsh.
State Sanatorium	Frederick	1,460	6	64.4	.....	90	5	40	23	26	3.05	.....	1.75	0	4	20	4	6	e.	Superintendent.
Sudlersville	Queen Annes	65	15	67.6	− 0.9	91	7	41	23	34	4.01	− 0.47	1.26	0	8	15	7	8	e.	Henry L. Higman.
Takoma Park	Montgomery	320	15	66.0	− 1.2	88	7	40	23	29	2.71	− 1.64	1.05	0	5	0	23	7	.....	L. M. Mooers.
Towson	Baltimore	465	5	70.4	.....	91[b]	7	38[b]	23	35[b]	2.10	.....	1.54	0	5	19	8	3	se.	C. W. E. Treadwell.
Van Bidder	Harford	100	16	65.4	− 1.9	88	7†	39	15†	34	2.40	− 2.19	2.10	0	4	19	3	8	.....	W. Benj. Ford.
Westernport	Allegany	1,000	19	65.6	− 0.2	102	6	32	23	49	3.19	+ 0.77	1.84	0	7	.....	.....	.....	.....	Prof. O. H. Bruce.
Westminster	Carroll	860	20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. G. F. Morelock.
Woodstock	Baltimore	392	43	67.2	+ 1.5	88	7	41	23	28	1.67	− 1.99	1.45	0	4	16	7	7	se.	Rev. J. F. Dawson, S. J.
Delaware.																				
Delaware City	New Castle	10	6	67.4	.....	90	5	45	23	25	3.21	− 0.14	1.18	0	6	17	8	5	n.	H. Morton Price.
Dover	Kent	40	25	68.6	+ 0.8	90	4†	41	23	32	3.83	− 0.13	1.35	0	9	12	9	9	e.	W. C. Josting.
Milford	do	20	29	68.0	− 0.1	88	5	42	23	28	4.48	+ 0.44	2.56	0	9	11	13	6	ne.	C. J. Holzmueller.
Millsboro	Sussex	20	21	68.5	− 0.1	88	5	48	23	31	3.42	+ 0.09	0.88	0	7	21	4	5	se.	Rev. L. W. Wells.
Seaford	do	40	22	67.6	− 0.8	88	6	42	23	27	5.28	+ 2.10	1.86	0	11	15	11	4	s.	E. B. Brown.
Wilmington	New Castle	86	2	68.5	.....	91	5	47	23	27	3.33	− 0.01	1.43	0	6	21	7	2	nw.	A. J. Taylor.
District of Columbia.																				
Washington	Dist. Columbia	112	43	67.4	− 0.7	93	7	40	23	30	2.41	− 1.18	1.05	0	6	9	9	12	s.	U. S. Weather Bureau.
Virginia.																				
Culpeper	Culpeper	450	5	65.6	.....	91	6†	35	23	38	1.99	.....	0.62	0	7	13	14	3	s.	Col. H. C. Burrows.
Dale Enterprise	Rockingham	1,350	34	64.8	− 1.8	94	6	33	23	42	1.57	− 1.97	0.68	0	7	11	10	9	s.	Rev. L. J. Heatwole.
Eastville	Northampton	15	3	70.4	− 0.8	91	7	44	23	31	1.71	− 1.97	0.83	0	5	13	14	3	sw.	T. B. Robertson.
Fredericksburg	Spotsylvania	100	24	67.3	− 1.9	92	6†	39	23	31	3.30	+ 0.09	1.39	0	8	17	9	4	s.	S. G. Howison.
Lincoln	Loudoun	500	12	65.4	− 2.4	92	6†	35	23	45	2.06	− 0.96	1.71	0	5	19	8	3	nw.	Dr. Geo. Roberts.
Mount Weather	do	1,726	9	62.8	+ 0.4	85	6	41	14	21	2.80	− 0.05	1.31	0	9	11	7	12	se.	U. S. Weather Bureau.
Quantico	Prince William	16	16	65.7	− 2.7	90	7	35	23	31	2.47	.....	1.36	0	4	23	2	5	ne.	R., F. & P. R. R.
Staunton	Augusta	1,380	21	65.4	− 2.7	90	6†	35	23	38	1.89	− 1.41	0.80	0	7	7	14	9	se.	Ernest Nothnagel.
Swetnam	Fairfax	300	1	.....	.....	.....	.....	.....	.....	.....	2.34	.....	1.00	0	5	20	6	4	s.	Potomac Electric Power Co.
Warsaw	Richmond	169	21	68.4[a]	− 1.2	89	7	40	23	31	4.00	+ 1.49	2.10	0	5	10	17	3	s.	C. H. Constable.
Waynesboro	Augusta	1,315	1	65.6	.....	94	5†	38	23	39	.....	.....	.....	0	.....	19	1	10	sw.	H. M. Magie.
Winchester	Frederick	717	2	65.6	.....	92	6	35	14	35	2.20	.....	1.40	0	2	16	4	10	w.	Bently Kern.
Woodstock	Shenandoah	927	17	66.8	− 0.9	98	6	36	23	43	1.39	− 1.22	0.80	0	5	16	10	4	w.	Mrs. A. G. Artz.

[a], [b], [c], etc., indicate respectively 1, 2, 3, etc., days missing from the record.
** Temperature extremes are from observed readings of the dry bulb; means are computed from observed readings.
† Also on other dates.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 2.—*Daily precipitation for September, 1913. District No. 1, North Atlantic States.*

Stations.	Watershed.	Day of month.																												Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Maine.																																
Ashland	St. John										.10	.20		.11					.30	T.			.60	.84								2.15
Bar Harbor	Coast													.68					.20				.90	.50								2.77
Cambridge	Kennebec				.49									.16					.49	.13	.14	.51	1.94					T.				3.63
Cornish	Saco			T.	.14				.12					.90					.40				*	1.60								3.10
Danforth	Penobscot			.15	.07				.18	.01	.04			.30				T.	.15	.05		T.	.01	.73				T.		T.		1.69
Eastport	Coast				.20				T.			.02	.05	.31	.01			T.	.09				.29	.80	T.			.05				1.82
Eustis	Kennebec											.50			.61			.25						1.45								2.81
Fairfield	do																															
Farmington	do				.18				.03			.30		.44					.11			.12	4.02	.80				T.				6.00
Gardiner	do				.13				1.63			.06		.32					.33		.16	.03	1.62	.57								4.85
Greenville	do			.14								.07		.08					.52	T.		.52	2.40	.54				.03		T.		4.30
Houlton	St. John								T.					.20					.40					1.50								2.10
Howe Brook	Penobscot			.30					.20						.40	.50	.60															2.00
Lewiston	Androscoggin				.08				.03					.38					.35	.04	.19	.44	.15	.36				T.				4.02
Madison	Kennebec			.39					.08			.08		.55				.23				.02	2.47	1.03								4.85
Millinocket	Penobscot			.11					.08		.07			.27				.55	.07			.32	2.24	.05	T.			.03		T.		3.79
North Bridgton	Saco				.23				.30					.60					.22		.21	.20	1.78	.62								4.16
Oquossoc	Androscoggin				.30							T.		.50					.15					.60				T.				1.55
Orono	Penobscot				.51				.17	1.03		.40		.50	.12				.30				.27	1.12								4.42
Patten	do								T.										.01				.64	1.00								1.65
Portland	Coast				.23				1.69					.05				T.	.30	.03	.36	.64	.12				.01					3.46
Presque Isle	St. John							T.	T.	T.		.09			.23				.24				T.	1.25						.20		2.01
Rumford Falls	Androscoggin			.10					.02					.37				.05	.07		T.	.84	2.65	.02								4.12
The Forks	Kennebec																															
Van Buren	St. John											.04			.75				.25				.06	1.56					.04	.02		2.72
Winslow	Kennebec			.36					.07			.26		.75				.36		.08		*	*	1.86								3.74
New Hampshire.																																
Alstead Center	Connecticut				.23	.15		T.	.20					T.				.04	.25	.20	.20	.12	.72								2.11
Benton	do				.08							T.		.48				*	*	*	*	*	2.25									2.81
Bethlehem	do			.71					T.					.48				.27					1.24					.04				2.74
Brookline	Merrimack				.25	.65						T.	.15					.15			.60	.72	.78									3.30
Concord	do				.48				T.			T.		.04				.06	.16	.04	.09	.23	2.16									3.26
Durham	do				.43	.02													.22	.02	.16	.48	.05									1.38
Franklin	do				.29									.06				.01	.22	.04	.07	.23	2.23	.01								3.16
Grafton	do				.05									.23				.01	.23	.10	.01	.14	1.60									2.37
Hanover	Connecticut				.06	.06	T.							.26				.06	.23	.08		.03	.91									1.69
Keene	do				.31	.14		.01	.20					.03				.02	.20	.02	.14	.04	.54									1.65
Nashua	Merrimack				.61	.40			T.				T.	.09				T.	.20	.16	.02	.25	1.76	T.				T.				3.49
Newton	do				.18	.16								.09					.30	.30	.09	.27	.89									2.28
Plymouth	do				.17									.17	T.			T.	.20	T.	.03	.11	2.23					T.				2.91
Vermont.																																
Bloomfield	Connecticut			.45	.27				.03					.43	.05			.05	.09				.98	.10				.03				2.48
Cavendish	do							.69						.15					.19	.14	.03	.39	1.05		.11							2.75
Chelsea	do			.52	.11									.04				T.	.15	.02		.02	.88									1.74
Manchester	Hudson																															
Somerset	Connecticut				.54	.20		.01		T.		T.		.01				.02	.12	.14	.03	.30	2.04					.03				3.49
St. Johnsbury	do			T.	.02				T.					.30				T.	.16	T.			.96	.01				T.				1.45
Vernon	do				.44	.56			.18					.19				.07	.15	.04	.04	.19	.82									2.68
Woodstock	do													.26				.02	.04			*	.91									1.23
Massachusetts.																																
Amherst	Connecticut		.01		.52	.67		.04	T.					.10					.08	.13	.18	.11	.23	.49								2.56
Ashland	Merrimack				*	1.00			.09				.21						.52	*	*	*	1.74									3.56
Bakers Bridge	do				.05	.75			.04					.20					.50	.36	.24	.23	1.13									3.50
Bedford	do				.08	.64								.20				T.	.42	.38	.11	.06	1.08									2.97
Blue Hill	Coast				.08	1.04		T.	T.				.01	.16				T.	.43	.49	.17	.06	.33									2.77
Boston	do				.04	.70		T.	.25			T.		.12				T.	.45	.37	.10	.08	.39									2.51
Chestnut Hill	do				1.01				.02				.15	T.				.53	.10	.50	.18	.12	.46									3.07
Clinton	Merrimack				*	.83		.05	T.					.25				T.	.30	*	*	*	2.81									4.24
Concord	do				.12	.71		T.	T.				T.	.19				T.	.41	.39	.21	.17	1.03									3.23
Fall River	Coast				.07	.56		.27						.27					.75	.33	.17	.19	.34									2.95
Fitchburg	Merrimack				.25	.92		T.	.03			T.		.14					.18	.20	.01	.47	2.83									5.03
Framingham	do				*	1.11							.17						.62	*	*	*	1.99									3.89
Haverhill	do				.24	.44								.18					.27	.18	.20	.25	.49	.23								2.30
Hingham	Coast				.75			T.	T.					.18					.47	.40	.14	.14	.33									2.41
Hyannis	do					.75	.02	.15				.02		.28					.66	.50	.40		.29									3.07
Jefferson	Merrimack				*	1.67								.37					.30	*	*	*	3.59									5.93
Lake Cochituate	do				*	1.22							.17						.54	*	*	*	1.74									3.67
Lawrence	do				.19	.52			T.					.18				T.	.25	.01	*	*	1.26					T.				2.41
Leominster	do				.17	.94		T.				T.		.20				T.	.16	.27	.07	.51	1.19									3.51
Lowell	do					1.37								.14					.24	*	.41		1.56									3.72
Middleboro	Coast				.30	.38		.01						.19					.88	.57	.08	.01	.35									2.77
Nantucket	do				.10	1.49		.21	1.42			T.	T.	.29					2.29	1.48	.18	T.	.29	.01								7.76
New Bedford	do					.92		.30				.60		.25					.70	.20	.05		.46									3.48
Norfolk	do				T.	.93			T.					.23				T.	.43	.87	T.	.28	.63									4.37
Plymouth	do					1.05								.17					1.05	.70	.20	*	.56									3.73
Princeton	Merrimack				*	.73								.17					.13	*	*	*	3.10									4.13
Provincetown	Coast				T.	.88			.10				T.	.16				T.	1.03	.62	.28	T.	T.	.20								3.27
Rockport	do				.05	.60								.10					.50	.40	.20	.04	.05	.70								2.64
Rutland	Connecticut																															
Somerset	Coast				.32	.07		.38						.23				T.	.91	.47	*	.23	.19									2.80
Spot Pond	do				.80	.02			.04				.16					.43	.06	.45	.19	.12	.69									2.96
Springfield	Connecticut				.23	.04		.05	.07				.33					.35	.07	.42	.23	.17	.45									2.41
Sterling	Merrimack				*	.75			.05					.20					.05	*	*	*	2.72									3.77
Taunton	Coast				*	.80		T.				T.		.24				T.	.81	*	*	*	1.27									3.12
Turners Falls	Connecticut				.34	.83								.10					.17	.12	.16	.35	.76									2.83
Westboro	Merrimack					1.20			T.					.18					.65		*	*	2.00									4.03
Williamstown	Hudson				.38	.41	T.		.41										T.	.03	.16	T.	.23	1.30								2.92
Winchendon	Connecticut				.45	1.37			.05	.10				.05					.01	.15	.10		.20	.91								3.39
Worcester	Coast				.82	.13		T.	.02					.11					.20	.31	.52	.50	.39	2.04								5.04
Rhode Island.																																
Block Island	Coast					.14		.11	.12				.03	.48					.71	.49	T.	.01	1.00									3.09
Bristol	do				*	.82			.02					.23					.67	*	.48	*	.37									2.59
Greene	do			.03		.91			.16					.36					.72		.18		.36	.51								3.23
Hope Valley	do					.37		T.	.13					.35						.80	.50	.16	.56									2.87

TABLE 2.—*Daily precipitation for September, 1913. District No. 1*—Continued.

Stations.	Watershed.	Day of month.																											Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Rhode Island—Con.																																
Kingston	Coast				.32				.09					.37					.68	.38	.05	.18	1.05									3.12
Narragansett Pier	do				.03	.18		.10	.19					.32					.70	.50	.06	.06	.92									3.08
Pawtucket	do				*	.45			.02					.27				*	.71		.37	*	.80									2.62
Providence	do				.08	.21		.31						.25					.65	.22	.03	.13	1.02									2.90
Wallum Lake	do				.48	.20	.03							.20				T.	.48	.20	.19	.60	.55									2.93
Connecticut.																																
Bridgeport	Coast				T.	.02	T.	.27	.24					.25					.73	.53	.01	.30	.77									3.12
Canton	Connecticut					1.16		.63	T.					.23				T.	.38	.31		*	1.52									4.23
Colchester	Coast					.40		.28	.33					.32					.60	.37		.30	.94									3.54
Cream Hill	Housatonic				1.00			.19						.45				.01	.33	.29	.03	.55	.96									3.81
Danielson	Coast				.41				.09					.25					T.	.82			1.70									3.27
Falls Village	Housatonic					1.22		.06						.37				.19	.20	.34	T.	.50	.86									3.74
Hartford	Connecticut					.69		.44	.11					.29				.01	.76	.25	.10	.29	.62									3.56
Hawleyville	Housatonic					.39		.51	.12					.25					.44	.53	.03	.43	1.10									3.80
Lake Konomoc	Coast					.60			1.60					.35				1.40			.35		1.10									5.40
New Haven	do					.21		.14						.28				T.	.53	.47	.11	.19	.59				T.					2.52
New London	do				T.	.22		.15	.60					.45					.75	.30	.26		1.40									4.13
N. Grosvenor Dale	do					.48		.03						.26					.43	.20		.21	2.37									3.98
Norwalk	do				*	.45			*	.55				.23					.60	*	*	.65	1.10									3.58
Southington	do					.25	T.	.35	1.00					.15				T.	.60	.20	T.	.40	1.00									3.95
South Manchester	Connecticut					1.46		.30						.67					.51	.05	.16	.18	.51									3.84
Storrs	Coast					.50			.10					.25				.36		.47			.92									2.60
Torrington	Housatonic					.86	.02		.32					.30					.42	.13	.22		1.20	.66								4.13
Voluntown	Coast					.42			.27					.38					.83	.32			.93									3.15
Wallingford	do				.04			.34	.01				.29					.60	.11	.30	.08	.25	.35									2.37
Waterbury	Housatonic					.22		.86	.11					.22					.56	.33	*	.25	.82									3.37
New York.																																
Addison	Susquehanna					T.		.11										.42	.03			.80	.40									1.76
Albany	Hudson				.38	.06		T.						T.				.31	.10	.01	T.	.10	.83									1.79
Alfred	Susquehanna					T.												.57	.06			.65	.09				.03				.20	1.60
Amsterdam	Mohawk				.10			T.										T.	.35		.02		1.51	.10								2.08
Athens	Hudson	T.			T.	.17		T.	T.					.04				T.	.19	.08		.32	1.22					T.				2.02
Ballston Lake	Hudson				.09	T.		T.	T.					T.				.07	.24		T.	.06	2.03									2.49
Bedford	Coast		T.			.64	.04	.23	.26									T.	.54	.64	.22	.67	1.09	.02				T.				4.35
Beerston	Delaware		.03		.01		.14	.03				T.							.32			.69	1.39					.10				2.71
Binghamton	Susquehanna					T.											.02	.36	.05		.02	2.35	T.				.10				.03	2.93
Bouckville	do				.12	.04								.04				.36	.06		.02	.46	2.04	.04								3.18
Carmel	Hudson					.26		.36						.25				.51		.61		.18	2.29									4.46
Chatham	do				.11	.89								T.					.30	.02		.07	1.60					.05				3.04
Cooperstown	Susquehanna				.17													.58	.12	.05		1.37	.34				.10					2.73
Corinth	Hudson					.08												.06	.11			.12	1.24	.66								2.27
Cortland	Susquehanna					.02			.02					.02				.26	.23				1.76	.03				.07				2.35
Cutchogue	Coast					.30	.11	.06	.13					.48					.73	.42		.14	.59									2.96
De Ruyter	Susquehanna					.06								.11				.42	.08			1.15	1.07	.21				.10			T.	3.20
Elmira	do					.26		T.									T.	.22	T.			2.50	T.				.02				.27	3.27
Glens Falls	Hudson				T.									.05				T.	.20			T.	1.75					.02				2.02
Gloversville	Mohawk				.11				.18					.05				.02	.19			.14	2.20									2.89
Greene	Susquehanna					T.														.58			2.40					.09				3.07
Greenfield Center	Hudson				.36														.25			.19	1.35									2.06
Hancock	do							.04					.03						.34				2.10					.04				2.55
Haskinville	Susquehanna																	.30	.15			.90	T.							T.	T.	1.37
Hoosick Falls	Hudson				.12	.35				.30									.23	.05			.55	.13									1.75
Indian Lake	do				.25										.10		.07	.20				.15	2.00									2.73
Jeffersonville	Delaware						T.	T.	.44				T.	.28				T.	.52	.05	T.	.26	1.93									3.46
Liberty	do				.15	.05	.30	.25										1.10	.05	.85	.63	1.35										4.78
Little Falls	Mohawk				.13									T.				.22	.25	.04		T.	1.50					.12				2.23
Mechanicsville	Hudson				.20														.25			.07	1.20	.28								2.00
Mohonk	do				.75	.15	.25						.35				.02		.20	.25	.33	1.75										4.05
Morehouseville	Mohawk																	.21	.40				1.96									2.57
Morrisville	Susquehanna				.07	.10												.10					2.50	.15								2.92
Mount Hope	Coast					1.75	.82	.17										1.63	.67	.34	.88	.48	1.72									8.46
Mount McGregor	Hudson																	.21				1.15	.45									1.81
Newark Valley	Susquehanna																	.50	.11			1.90	.15					.07				2.73
New Berlin	do					.05												.10	.46	.01			2.01	.02				.07				2.72
New Lisbon	do				T.	.22			.01									.37	.11			.06	1.34	.05				.08				2.24
New York City	Coast				2.63	.81	.01	.04					.03	.25					.58	.24	.03	.29	.37										5.28
North Creek	Hudson													T.				.20				*	2.50									2.70
Northville	do				.20				.31		.01							.11					1.68									2.31
Oneonta	Susquehanna					.28			.02									.26				.39	.88				.04					1.87
Oxford	do					.50												.20	.37			.54	1.47					.12				3.20
Port Jervis	Delaware						T.	.06						.27				.11	.20	.25	.01	.65	.99									2.54
Roslyn	Coast				.04	.50	.04		.03					.35					.63	.28	.02	.03	1.03									2.95
Salisbury	Mohawk				.18				T.					T.				.21	.24				1.72									2.35
Scarsdale	Coast				.25	.50	.10	T.	.12				T.	.30	T.			T.	.56	.30		.50	1.50									4.13
Setauket	do				.06	.69	.04	.30						.49					.97	.32	.05	.21	.66									3.79
Sharon Springs	Mohawk				.28									.08				.12		.05		.03	1.22	.03				.08				1.89
Sherburne	Susquehanna																	.18	.28	T.			2.23					T.				2.69
Southampton	Coast				.05	.51	.07	.11	.18					.64					1.00	.61	T.	.11	.71							T.			3.99
South Edmeston	Susquehanna				T.	.05			T.					T.				.24	.15			.32	1.63									2.39
Spier Falls	Hudson			.02	.07				T.							T.		.14	T.		.13	1.29	.36							T.	2.01
Trenton Falls	Mohawk				.07	.07									T.			T.	.82	T.			1.87	T.			T.					2.83
Tribeshill	do				.40													.30	.10				1.30									2.10
Utica	do				.14	.15												.05	.65				2.20	.05				.04				3.28
Wading River	Coast					.40	.22	.70						.65					.92	.40	.05	.30	.47									4.11
Wappingers Falls	Hudson			T.		.12	.03	.24	.18					.24				.18		.24	.15	.28	.92									2.58
Warwick	do					.06		.05						.30					.52	.48		.25	1.42									3.08
Waverly	Susquehanna					.08												.24	.14			1.60	.42				.05			*		2.53
West Berne	Mohawk	.52			.17	.03												T.	.29	.04		.39	1.61								.15	3.20
West Point	Hudson				T.	.29	1.03	1.26	T.									.23	.81		.89	1.33	.26								T.	6.52
Windham	Mohawk					.15									.42			T.	.22	.03		.74	2.05					.05				3.24
Pennsylvania.																																
Altoona	Susquehanna				.01	.01	.41	1.03					.07					.65	.15		.05	2.00	.06						.04			4.48
Ansonia	do						.07												.32			.38	1.11									1.88
Austin	do							T.										.45				.80	.20					T.			1.05	2.50
Bloserville	do	.47			.01		.04	.09	.14				.15			T.		.62	.40	.03	.81	2.01	.02							.13	.10	4.52

TABLE 2.—*Daily precipitation for September, 1913. District No. 1*—Continued.

Stations.	Watershed.	Day of month.																												Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Pennsylvania—Con.																																
Browers Lock	Schuylkill			T.			.54		.10											.90		.74									2.28
Catawissa	Susquehanna	.33			T.	.12		.26					.22					.30	.14		.05	2.64								.04	4.10
Center Hall	do							.08									1.00		.60											T.	.10	1.78
Coatesville	Coast							.29	.18					.10					.46	.37	.07	1.20	.05								.04	2.76
Doylestown	Schuylkill				.25	.28			.62										.61	.22	.20	3.12								.13		5.34
Drifton	Susquehanna				.27		.02							.40				.05	.40	.35	.40	2.10	.40									4.39
Emporium	do						T.												.54		T.	1.00	.12				T.				.19	1.85
Ephrata	do							1.62	.46				T.	.61				.42	.30		1.26	.05							.01	.03	4.76
Everett	Juniata				T.		T.	.16					.07					.34	.55	T.	T.	.99	.06									2.17
Forks of Neshaminy	Delaware				1.67	.74			.40					.20				.66					2.61									6.28
George School	do				.07	.90			.37				.05	.18				.56		.06	.14	.09	1.47						.02			3.91
Gettysburg	Potomac		T.					.03	.04				.05	.14				.05	.07	.04	.02	2.02	.02							.05		2.53
Girardville	Susquehanna	T.			T.	.45			T.				.30					.60	.10	.33	.15	4.22										6.15
Gordon	do				.08		T.							.38				.14	.26	.34		3.30	.65									5.15
Hamburg	Schuylkill						.10	1.29				.64						.27			.91	.39	.19					.17			.16	4.12
Hanover	Susquehanna								.17					.09				.28	.42	1.50		1.33	.09							.03	.03	3.94
Harrisburg	do	T.			.04	.04	T.	.01					.03	.05			T.	.62	.05	.25	.26	1.63								.24	.29	3.51
Huntingdon	Huntingdon				T.								T.	.08				.19	.20	T.	T.	1.49	.06							.03	.02	2.28
Hyndman	Potomac					T.		T.	T.				.05					.40	.30	T.	T.	2.05	T.							T.	T.	2.80
Kennett Square	Coast				T.	.12		.40					.14					.33	.13	.09		1.12								T.	T.	2.33
Lancaster	Susquehanna						T.	3.85	.50				.50					.45	.41			1.54	1.18									8.43
Lansdale	Schuylkill				.13	.70			.36					.17					.36	.32	.16	3.20	.15									5.55
Lawrenceville	Susquehanna					.30		.50										.25				2.10	.40					.05				3.60
Le Roy	do							.03										.30	.12		.01	2.50	.30					.05				3.31
Lewisburg	do							.19	.01					.25				.04	.37			1.78	.04									2.68
Lloyd	do																	.17	.40			1.78	.05									2.40
Lock Haven	do							.42					.07					.57	.02			1.77	.36							T.		3.21
Marion	Potomac							.06					.07					.76	.86	.05	T.	2.16	.25					T.				3.15
Mauch Chunk	Lehigh	.01			.06	.57	.02	.03						.39				.22	.16	.29		2.31	.32									4.38
Mifflintown	Juniata	.04						.45	.03									.17	.29	.01		3.97	.06							.09	.05	5.16
Milford	Delaware					.02	.03	.20	.13					.32					.21	.30	T.	.14	1.38									2.73
Montrose	Susquehanna					T.	T.	.06										.12	.24			2.70	.55									3.67
Mountain House	Juniata							.15	.02				.11					.30	.35	.15		1.10										2.18
Mount Gretna	Susquehanna	T.	T.	T.	.05	T.	T.	.41	.08				.03	.10			T.	.50	.19	.19	.04	1.81	.05				T.	T.	.10	.06	3.61
New Germantown	do							.25									.11			1.91	.20										2.47
Ottsville	Delaware				.31	.81	.02	.70	.35					.17				.54	.07	.02	.23	1.04										4.26
Philadelphia	do				T.	.01	T.	.68	T.				.23	.05				.16	1.29	.01	.05	1.74	.01							.01	T.	4.24
Point Pleasant	do				2.34	.11		.58	.35					.22					.46	.52	.14	.12	1.82									6.65
Pottsville	Schuylkill				.01	.21	.04	T.					.06	.28				.29	.07	.18	.02	3.51	.01							.03		4.71
Reading	do	T.			.32	.10	T.	1.64	.21				.03	.15				.38	.04	.34	T.	2.13								.03	T.	5.37
Renovo ‖	Susquehanna								.25					T.							.46		.05	1.13								1.89
Scranton	do					T.		.03					.22	.02			T.	.37	.06	.01	T.	3.10	.01				T.	.05				3.87
Seisholtsville	Schuylkill				.05	.46	.04	1.21	.19					.23				.16	.13	.31		.97	.58							.04		4.82
Selinsgrove	Susquehanna	.02						.03	.08					.26					.52			2.10	.40							T.		3.41
Shawmont	Schuylkill				.02	.15		.10	.25										.50	.35	.15	1.27	.42									3.91
Shippensburg ‖	Susquedanna		.01						.03	.03				.18				.02	.65	.58	.03	.09	1.70								.02	3.34
Smiths Corners	Schuylkill				1.59	.07		.75	.17					.37					.54	.49	.16	.80	1.36									6.30
Spring Mount	do				.06	.21		.15	.16	.06				.21					.37	.07	.07	1.13	.26							.03		2.81
State College	Susquehanna							.10	.02				T.	.04				.45	.15		T.	1.14	.10							.03	.26	2.29
Stroudsburg	Delaware				.16	.48		.05						.39					.24		.60	T.	.46	2.19								4.57
Sunbury	Susquehanna							.02	.05					.20				.12		.31		2.47								.01		3.18
Towanda	do					.02		.09										.26	.13			1.70	.48					.08		.01	.03	2.80
Weikert	do	.07						.06					.06				.03	.30				3.85	.05									4.42
West Chester	Coast							.06	.34				.01	.12				.03	.42	.81	.07	1.19	.20							.01	.03	3.29
Wilkes-Barre ‖	Susquehanna					.33	.10		.04					.43					.36	.01		.01	3.42									4.70
Williamsport ‖	do						.05		.47					.07					.34				3.62									4.55
New Jersey.																																
Asbury Park	Coast				.08	T.	T.	.59				T.	.04	.22				T.	.61	.33	.02	.03	.60									2.52
Atlantic City	do		.02					.08	1.71					.04				T.	.46	.27	.01	.17	.34							T.		3.10
Bayonne	do				.28	1.00	.03	.01	.04				*	.28					.60	.38	.04	.23	.98									3.87
Belvidere	Delaware				1.45			2.50						.37					.33	.38	.05	1.40										6.48
Bergen Point	Coast				T.	1.15	.03	T.	.07				T.	.38				T.	.58	.24	.05	.22	1.01									3.73
Boonton	Passaic					.12	.04	.01	.06					.23					.44	.30	.05	.09	1.54									2.88
Bridgeton	Coast		.29					1.45										1.00		.29		2.20								T.		5.23
Burlington	Delaware			T.		.26	1.25	T.	.20					.19				T.	.52	.58	.26	T.	1.56								T.		4.82
Cape May City	Coast			.01					.12				.01	.03					.48	.46	.03	.23	.16						.03				1.56
Charlotteburg	Passaic				1.81			.17					.31						.66	.35		*	2.00										5.30
Chatham	do					4.05	.05	.05	.35										.55	.20	.05	.15	1.15	.05									6.65
Clayton	Coast		.09				T.	1.16	.60				.07					1.35	.05		.17	1.54								T.		5.03
Culvers Lake	Delaware					.01	.06	.12	.77			.01		.25				T.	.22	.63	.01	.05	1.17								T.		3.30
Dover	Passaic				.08	.04		.20					.28					*	.25	*	.40	*	1.35										2.60
Elizabeth	Coast				T.	1.00	T.	.15						.29					.57	.27	T.	.18	.89								T.		3.35
Flemington	do				.09	.18	.02	T.	1.58				T.	.18					.39	.29	.07	.04	1.72								.02		4.58
Haddonfield	Delaware		.29			T.	.02	.42	.45	T.			T.	.16					.53	.16	.13	.12	1.46								.02		3.76
Hammonton	Coast			.22				.95	1.35					.23	T.			1.53	.02		.33				T.		.20					4.83
Highwood	do				.05	.83		T.	.03					.32					.69	.02	T.	.37	1.06										3.37
Imlaystown	Delaware				T.	.75	T.	.10	.12			T.		.20					.75	.35			.71										2.98
Indian Mills	Coast		.16			T.		.55	1.26	.04			T.	.06				1.06	.20	.06	.04	.93								.04	.02	4.42
Jersey City	do				.06	2.19	T.	.16					*	.29				T.	.60	.22	.01	.15	.95										4.63
Little Falls	Passaic	T.			.30	.05	T.	.09					T.	.18				.30	.20	.30	.20	.96	.38									2.94
Long Branch	Coast				.55	.03	.01		.20				.02	.21					.48	.52	.16	.06	1.43								.01		3.68
Mahwah	Passaic					2.45								.28					.40	.35	.15	.50	1.95	.10									6.18
Moorestown	Delaware				.20	.10		.79	.14	.10			T.	.33					.50	.29	.18		1.11										3.74
Newark	Passaic				.35	*	1.05	*	.06					.29					.96	.54	*	.57	.97										4.79
New Brunswick	Coast				.30	.22		.45					.04	.21				.02	.64	.29	.21		.71										3.09
Newton	Delaware					.01	.01	.69						.31				.23		.72		.20	1.26										3.43
Northfield	Coast								1.64	.02				.06					.46	.22	.09	.03	.16								.01		2.69
Paterson	Passaic				T.	.26	T.	T.	.11					.39					.38	.28	T.	.63	.79										2.84
Phillipsburg	Delaware					.43	.01		.26					.35				T.	.28	.35	.03	.25	1.19							T.			3.15
Plainfield	Coast				.48	T.	.01	*	.38			.01	.02	.24				.02	.80	.23	.02	.66	.57							T.			3.44
Pleasantville	do				.01				1.73	.23				.08					.43	.32	.05	.06	.18										3.09
Pompton Plains	Passaic					.08		.04	.11					.26					.46	.41	.11	.21	1.48	.04									3.20
Somerville	Coast				T.		T.	.13	.34					.31					.76	.07	.11	.05	.86								.02		2.65
South Orange	do				1.04	*	.01						T.	.22				T.	.47	.27	.04	.17	.73								T.	T.	2.95
Sussex	Hudson							.46					.30						.27	.65		.09	1.50										3.27
Trenton	Delaware				.04	1.40	T.	.14					.01	.13				.02	1.04	.35	.32	1.19								.02			4.66
Vineland	Coast		2.20		T.				1.43				T.						1.09	.41	.08	.06	1.14								T.		6.41
Woodbine	do		.37		.58				.95					.06					.43	.37	.05	.06	.76									.02	3.65

TABLE 2.—*Daily precipitation for September, 1913. District No. 1*—Continued.

Stations.	Watershed.	Day of month.																												Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
West Virginia.																															
Bayard	Potomac					.25	.30		.28				T.	T.			.77		.17	.15	.26	1.50	T.								3.68
Burlington	do				T.			T.										.80	T.		.10	1.25								T.	2.15
Franklin	do																														
Harpers Ferry ‖	do													.05					.41	T.	T.		.98							T.		1.44
Lost City	do			.14				.02	.16									.65	.06		.05	.62									1.70
Martinsburg	do				.15			T.	T.				.05					.98		.20		1.51									2.89
Moorefield	do																														
Romney ‖	do																														
Upper Tract	do								T.									.83	.25		.06	2.25									3.39
Maryland.																															
Annapolis	Coast		.09										.01					T.	1.02	.04	.04	1.80	.22								3.22
Baltimore	do			.01	.03				.01				.04					.25	T.	T.	T.	1.16	T.							.01	1.51
Cambridge	do		.45		.05								.10					.52		.49	.08	.55	.51								2.75
Cheltenham	do		.18		1.10														.96	.03		.88	.20								3.35
Chestertown	do		.15											T.					.86	.08	.08	.05	.68								1.90
Chewsville	Potomac				.02			.02	T.				.13				T.	1.15	.37	T.	.02	1.48							.04		3.23
Clear Spring	do								.05					.10					.88	.48		.12	.88							.03	2.54
Coleman	do		.36															.99	.03	.02	.02	.72									2.14
College Park	do				.19				T.					T.					.52	T.	.02	1.50									2.23
Cumberland	do						T.		.06					.06				T.	.47	.07	T.	1.25	.15							T.	2.06
Darlington	Coast								.17				T.	.14				T.	.52	.02	T.	1.66	.12						T.		2.63
Denton	do		.28	T.			.20		.22										.22	.32	T.	.38	.94								2.56
Easton	do								.35				.07					.32		.17		1.81									2.72
Emmitsburg	Potomac																														
Fallston	Coast				T.		T.		T.				T.	.18				T.	.22	.02	T.	1.62	.20						T.	T.	2.24
Frederick	Potomac	T.	T.						.04				T.	.03			T.	.25	.05	T.	T.	1.36	.01						T.		1.74
Frostburg	do						.03	.60	.02				.05	.02				.55	.20	.08	.24	3.26							.15	.11	5.31
Great Falls	do				.19				.02										.18				1.09								.30	1.78
Green Spg. Furnace	do													.15				.64	.36	1.33	.13	1.30	.06								3.97
Keedysville	do				.02								T.	.05				.75	.10	.06	.01	1.35	.05						T.		2.39
Lake Montebello	Coast				T.				T.				T.	.06				T.	.24	T.	.02	.90	.10								1.32
Laurel	do				.08									T.				T.	.25	T.		1.20	.07								1.60
Leonardtown	do		.08	.05	.20								.15	.60					.10	.08	.33	1.05									2.73
Monrovia	Potomac				T.				.08					.03				.08	.15		.02	2.34	.03						T.		2.73
Pocomoke City	Coast	T.	2.37		.53	.25			.09					.18						.09		.03	.85								4.39
Princess Anne	do		.18			.13			T.				.16	.13					.20	.20	.31	.97	.08								2.36
Rockville	Potomac																														
Salisbury	Coast		.06		.05		.59		.08					.30					.06	.45	.05	.02	1.16									2.82
Solomons	do		.04	T.	.02				.05				.55	.12				T.	.17	.06		.81							T.		1.82
State Sanatorium	Potomac							.05										1.15	.10			1.75									3.05
Sudlersville	Coast		.69	.01	T.		T.		.05					T.				T.	1.25	.10	.03	.62	1.26	T.					T.		4.01
Takoma Park	do				.45									T.					.43	.03	1.05		.75								2.71
Towson	do				.09								T.					.11	.25	T.	T.	1.54	.11								2.10
Van Bibber	do																	.08	.19		.03	2.10									2.40
Westernport	Potomac							.02	.25				.02					.40	.06		.60	1.84									3.19
Westminster	Coast																														
Woodstock	do													.02					.15			1.45	.05								1.67
Delaware.																															
Delaware City	Coast		.41		.42				.26										.83	.11			1.18									3.21
Dover	do		.13		.15		T.	1.35	.20					.19					.35	.60	.02	.84							T.		3.83
Milford	do		.33					.02	.19									.08	.58	.27	.05	.40	2.56								4.48
Millsboro	do		.20		.88														.20	.35	.35	.80	.64								3.42
Seaford	do		.67		.80		.01	.08		.21				.08					.93	.27	.09	.28	1.86								5.28
Wilmington	do		.34					.65										.73		.08		1.43							.10		3.33
District of Columbia.																															
Washington	Coast		T.	T.	.67				T.				.01	T.			T.	.61	T.	.02	T.	1.05	T.						T.	.05	2.41
Virginia.																															
Culpeper	Rappahannock				.32								.22	.16				.50		.10	.07	.62									1.99
Dale Enterprise	Shenandoah			.01	.21				T.				.36				T.	.16	.05	T.	.10	.68									1.57
Eastville	Coast			.60						.11									.03	.14		T.	.83								T.	1.71
Fredericksburg	Rappahannock			.05									.52	.28				T.	.88	.12	.01	1.39	.05									3.30
Lincoln	Potomac				.05														.21			1.71	.05						.04		2.06
Mount Weather	do			T.	.07			.02	.22				T.				T.	.34	T.	T.	.12	.89	.02						.01	1.11	2.80
Quantico	do		.06										.02					T.	.93			1.36									2.47
Staunton	Shenandoah			.15					T.				.05					*	.24		.09	.56							T.	.80	1.89
Swetnam	Potomac		.40																.79	.10		1.00	.05								2.34
Wachapreague	Coast																														
Warsaw	Rappahannock			2.10									.55						.45	.05		.85									4.00
Waynesboro	Shenandoah																														
Winchester	Potomac																		.80		T.	1.40									2.20
Woodstock	Shenandoah				.02				.02										.25	.30		.80									1.39

* Precipitation included in that of the next measurement.
‡ Separate dates of falls not recorded.
‖ Precipitation for the 24 hours ending on the morning when it is measured.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 3.—*Maximum and minimum temperatures at selected stations for September, 1913. District No. 1, North Atlantic States.*

Date.	Maine.												Concord, N. H.		Massachusetts.								Providence, R. I.		Connecticut.			
	Eastport.		Greenville.		Orono.		Portland.		Presque Isle.		Rumford Falls.				Amherst.		Boston.		Middleboro.		Nantucket.				Cream Hill.		Hartford.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	73	52	79	49	82	52	77	60	80	46	80	52	84	54	85	60	84	66	83	59	73	65	77	63	82	59	84	66
2	77	54	84	48	86	54	72	57	83	56	84	54	87	58	88	66	83	67	84	56	79	64	80	62	83	62	87	61
3	81	54	85	62	90	54	84	66	84	53	92	59	91	57	86	64	86	66	83	65	76	66	84	65	80	56	83	66
4	62	50	66	46	89	49	74	56	64	48	71	52	72	54	71	58	73	57	74	58	74	59	72	57	81	58	76	60
5	61	48	67	41	71	44	66	55	61	38	72	49	64	53	60	54	62	55	60	55	59	55	60	55	69	44	60	59
6	64	47	71	37	71	41	71	52	72	30	75	42	76	50	79	50	70	54	72	43	72	55	74	53	72	47	77	56
7	68	48	79	39	75	43	68	54	80	41	80	48	72	47	68	57	75	58	73	43	71	55	71	55	67	50	69	59
8	68	55	73	54	75	60	83	62	74	56	80	60	85	59	82	59	86	65	83	65	74	64	84	64	78	56	80	62
9	56	48	59	44	69	48	62	49	60	40	60	42	63	44	66	43	65	50	75	52	67	57	64	48	66	45	66	50
10	57	44	60	35	60	34	62	44	62	26	64	36	66	36	70	38	60	46	60	39	58	49	62	44	63	36	65	45
11	53	43	53	40	62	42	56	44	59	40	53	43	62	35	70	36	60	47	65	33	60	48	65	42	64	39	67	45
12	62	45	60	36	61	37	60	46	65	33	64	44	67	47	70	46	65	54	65	43	62	51	63	49	69	45	72	48
13	55	50	55	40	62	44	67	50	60	35	61	48	70	47	70	48	73	52	73	52	70	56	71	50	60	43	71	51
14	54	42	52	38	54	40	61	42	55	45	54	38	58	38	64	38	64	46	65	34	61	52	62	44	61	36	62	45
15	60	42	59	38	61	30	61	39	62	32	63	36	65	28	68	31	59	41	61	30	59	47	62	39	62	35	64	38
16	67	44	72	32	69	29	63	41	74	27	68	34	70	32	74	32	65	46	68	30	62	47	68	42	65	39	71	39
17	60	46	68	34	72	37	64	46	68	36	68	39	72	38	75	47	74	52	68	34	69	50	70	47	62	46	71	49
18	62	53	58	48	67	55	74	56	64	33	68	56	74	55	73	59	77	57	77	62	73	64	76	57	70	59	76	60
19	55	49	61	42	63	46	56	53	67	32	61	54	56	54	59	54	58	55	66	55	65	59	56	55	62	48	60	54
20	60	51	64	39	69	48	57	52	71	37	58	54	57	52	61	54	59	56	65	56	65	59	61	54	58	49	62	53
21	56	49	57	50	69	46	57	55	65	40	59	55	64	55	73	57	65	58	68	59	68	60	69	59	67	54	72	58
22	62	55	61	53	63	56	63	57	64	54	69	58	75	61	73	57	77	64	80	66	74	61	73	62	68	60	73	56
23	59	50	61	49	63	56	68	53	67	46	63	47	67	45	68	46	71	54	68	48	68	58	67	51	64	41	66	50
24	63	47	61	46	65	39	67	48	67	40	64	44	67	43	71	40	65	50	65	39	63	55	67	47	70	43	67	44
25	62	47	71	35	69	36	66	46	71	32	70	41	74	42	77	40	69	51	72	37	68	54	67	49	76	40	76	44
26	63	50	66	39	70	44	66	52	74	46	72	48	78	44	78	48	78	56	74	45	68	53	76	54	72	53	76	54
27	63	42	55	42	69	46	64	48	63	40	60	42	65	46	68	45	68	52	63	50	66	56	65	50	62	41	65	53
28	55	38	67	30	64	34	60	41	68	28	67	36	71	35	70	34	70	46	65	34	63	53	65	42	65	38	67	42
29	68	44	65	49	70	49	74	48	63	44	70	44	74	46	76	46	76	53	73	47	68	57	75	52	72	41	76	52
30	49	37	52	30	71	33	60	44	51	27	58	37	57	43	60	45	61	50	63	45	60	48	60	49	73	46	60	50
Mns.	61.8	47.5	64.7	42.2	69.4	44.2	66.1	50.5	67.1	39.3	67.6	46.4	70.1	46.6	71.8	48.4	69.9	54.1	70.4	47.8	67.2	55.9	68.9	52.0	68.8	47.0	70.7	52.2

Date.	New Haven, Conn.		New York.												Pennsylvania.												Atlantic City, N. J.	
			Addison.		Albany.		Binghamton.		Indian Lake.		Little Falls.		New York.		Everett.		Harrisburg.		Philadelphia.		Scranton.		State College.		Wellsboro.			
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	78	66	89	49	86	61	85	57	85	39	85	55	81	68	86	47	84	64	84	69	85	60	84	55	.....	.....	76	68
2	79	63	95	48	89	65	89	60	90	42	90	61	83	68	88	56	84	66	82	70	88	61	87	57	.....	.....	77	71
3	82	70	98	56	87	67	90	59	91	47	92	61	83	70	85	55	79	65	85	70	82	61	84	55	.....	.....	79	72
4	84	62	86	59	73	52	83	64	82	45	79	54	84	69	86	79	85	69	88	72	88	63	85	55	.....	.....	81	74
5	62	59	81	59	65	53	74	63	78	46	70	53	70	62	88	62	92	70	89	67	83	67	88	55	.....	.....	81	73
6	71	58	90	58	79	59	80	63	83	35	71	54	70	62	90	58	72	66	70	65	75	64	80	55	.....	.....	74	72
7	71	60	90	68	72	64	80	67	79	43	71	59	74	66	88	52	88	64	87	68	77	65	85	57	.....	.....	80	72
8	86	65	84	60	83	61	79	59	70	56	75	60	85	68	86	50	85	67	86	70	81	60	80	64	.....	.....	86	69
9	68	50	70	50	64	48	64	45	63	41	66	44	68	57	80	63	70	56	72	58	66	51	77	52	.....	.....	72	58
10	68	46	77	30	67	40	69	34	69	25	69	36	66	52	71	35	68	46	67	51	69	42	70	36	.....	.....	63	52
11	71	48	85	45	71	47	70	47	67	30	64	45	67	53	77	34	78	47	74	55	68	48	70	41	.....	.....	74	56
12	70	52	76	47	72	52	75	52	69	36	69	46	68	56	69	43	66	56	70	60	74	54	68	.....	.....	.....	73	68
13	72	53	77	43	69	48	63	46	65	42	62	45	71	54	65	47	69	57	74	59	65	51	62	36	.....	.....	74	50
14	62	45	70	30	61	44	60	39	49	33	58	34	62	47	69	33	64	46	65	50	60	41	61	36	.....	.....	63	54
15	63	40	75	29	65	35	66	29	63	20	62	29	64	48	68	40	67	45	65	48	66	37	66	35	.....	.....	65	54
16	66	41	75	30	70	37	73	37	69	21	70	35	64	52	67	45	66	47	71	50	70	40	64	38	.....	.....	67	54
17	70	50	67	53	70	55	64	55	67	41	64	50	73	59	67	43	68	55	74	60	71	56	63	36	.....	.....	73	60
18	78	62	70	45	70	56	62	55	60	49	63	53	76	62	67	59	70	63	76	64	66	56	66	41	.....	.....	76	66
19	62	55	69	48	59	57	65	55	56	47	60	51	63	57	65	55	63	57	64	60	61	56	65	52	.....	.....	69	64
20	64	54	72	46	67	56	69	59	60	42	66	52	66	57	65	58	66	58	65	59	68	57	65	53	.....	.....	69	65
21	71	63	73	53	74	60	78	55	65	54	75	56	71	65	66	42	80	56	80	63	78	56	66	55	.....	.....	74	68
22	72	56	65	46	72	56	61	46	66	52	68	48	69	55	58	46	63	47	69	54	65	47	63	41	.....	.....	71	53
23	67	48	67	33	65	49	62	39	59	34	61	43	67	47	62	30	66	43	66	49	62	43	60	33	.....	.....	66	46
24	71	47	77	35	65	46	68	40	68	32	66	38	70	52	73	34	73	45	71	53	69	41	70	35	.....	.....	67	50
25	72	48	79	41	76	47	81	46	79	31	76	47	72	56	79	40	78	50	77	55	81	47	77	41	.....	.....	70	56
26	74	56	83	44	78	55	78	51	74	39	77	55	75	58	67	49	80	54	77	58	79	50	78	44	.....	.....	72	61
27	68	55	70	38	66	48	64	44	70	45	62	49	67	55	70	33	68	54	69	58	65	49	68	45	.....	.....	67	54
28	64	45	74	33	68	41	70	36	67	22	63	35	66	51	71	45	68	46	71	52	69	38	69	40	.....	.....	67	51
29	74	54	79	44	77	54	77	51	70	33	71	49	72	55	71	50	68	54	69	57	74	47	71	52	.....	.....	73	64
30	70	52	80	53	66	47	75	43	71	39	66	43	70	57	76	54	75	59	76	60	77	56	75	58	.....	.....	69	64
Mns.	71.0	54.1	78.1	45.8	71.5	51.9	72.5	49.8	70.1	38.7	69.7	48.0	71.2	57.9	74.0	47.9	73.4	55.7	74.4	59.5	72.7	52.1	70.0	46.7	.....	.....	7.23	61.3

TABLE 3.—*Maximum and minimum temperatures at selected stations for September, 1913. District No. 1*—Continued.

Date.	New Jersey.								Martinsburg, W. Va.§§		Maryland.								Millsboro, Del.		Washington, D. C.		Virginia.					
	Bridgeton.		Phillipsburg.		Sussex.		Trenton.				Baltimore.		Darlington.		Frederick.		Westernport.						Fredericksburg.		Staunton.§§		Woodstock.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1....	90	65	86	61	85	58	86	68	89	59	85	69	79	65	89	60	91	48	84	63	85	67	86	61	88	57	92	59
2....	80	66	88	63	88	59	83	67	86	63	82	69	86	65	86	63	93	59	83	73	82	68	82	61	85	60	86	60
3....	87	66	86	68	81	66	87	68	85	66	84	71	83	65	83	66	88	55	84	72	82	70	80	69	77	60	81	62
4....	91	70	89	66	89	63	88	71	92	68	86	74	88	60	92	69	92	68	81	72	89	72	87	67	83	66	90	68
5....	91	72	87	63	71	59	90	63	94	65	90	72	88	68	97	65	100	60	88	71	88	71	88	67	88	62	95	63
6....	80	69	74	61	68	60	68	62	94	65	84	72	78	65	91	67	102	62	87	70	92	70	92	61	90	64	98	65
7....	89	70	86	63	72	63	84	66	92	71	92	73	88	66	96	70	90	67	87	72	93	75	92	67	90	65	97	66
8....	87	68	87	65	84	65	85	68	88	68	89	73	83	66	90	70	85	64	86	72	86	73	88	71	82	64	86	69
9....	76	57	80	60	75	50	71	54	78	55	75	60	79	56	77	53	90	51	76	62	74	57	79	63	78	61	80	57
10....	71	46	70	41	70	36	69	48	74	46	70	53	70	45	77	43	82	44	67	54	70	51	71	59	72	41	75	41
11....	77	48	74	46	63	44	73	52	80	41	78	54	77	44	83	43	76	39	76	45	77	47	79	41	80	42	85	42
12....	76	58	69	54	63	45	70	57	72	45	75	59	70	54	74	51	70	47	81	55	77	57	85	53	85	59	84	50
13....	78	60	71	55	70	53	71	54	72	54	75	59	71	64	77	57	77	52	75	60	74	60	74	62	75	58	75	56
14....	65	46	67	41	63	41	65	46	66	45	65	51	66	44	68	43	66	37	65	49	63	48	66	49	66	44	67	40
15....	71	44	67	39	66	35	64	44	72	43	69	49	67	52	73	40	70	41	69	51	69	47	69	47	66	44	73	38
16....	74	44	73	38	73	32	70	45	70	42	69	51	68	42	71	48	70	53	72	71	67	53	69	56	67	54	71	55
17....	76	55	75	50	74	50	74	55	73	50	74	60	73	51	77	54	63	49	79	58	75	58	74	57	71	53	74	63
18....	78	64	76	62	74	62	77	62	75	57	76	65	74	62	80	62	77	59	81	68	73	63	71	62	69	61	75	63
19....	70	64	62	55	65	54	62	57	68	60	70	63	68	58	72	60	66	59	78	67	70	65	73	64	75	60	72	62
20....	70	60	64	56	64	55	65	56	69	50	70	61	67	57	69	61	66	59	75	66	70	62	75	60	77	62	74	63
21....	78	65	79	61	78	60	77	65	73	61	79	59	78	58	84	59	66	54	79	64	80	56	79	60	67	60	73	56
22....	74	57	72	56	71	58	69	50	62	47	67	53	71	40	68	50	60	42	71	56	66	45	65	51	58	41	65	44
23....	70	42	69	41	69	39	65	45	67	31	68	47	70	44	68	36	81	32	69	44	66	40	67	39	69	35	74	36
24....	75	44	73	42	74	33	72	49	72	31	75	50	73	37	74	40	83	37	73	46	74	44	72	44	74	40	78	39
25....	77	50	78	46	81	43	79	51	78	40	76	65	74	47	81	45	89	42	76	48	79	49	77	47	80	43	85	44
26....	81	50	79	51	77	49	76	54	82	41	80	57	75	49	83	49	95	46	78	52	80	55	79	51	83	48	88	45
27....	69	56	68	52	68	48	68	54	68	49	69	57	69	55	71	56	72	53	71	57	69	51	70	58	71	59	77	43
28....	74	45	71	41	70	36	71	47	72	41	69	52	69	44	74	41	81	39	75	47	73	46	73	45	73	45	70	40
29....	77	50	73	47	74	44	73	52	74	43	76	59	71	50	78	53	77	54	81	56	80	59	82	59	77	59	79	55
30....	79	62	75	57	78	52	73	58	79	52	78	64	78	57	80	57	87	60	83	65	81	63	80	62	81	58	85	47
Mns..	77.7	57.1	75.6	53.4	73.3	50.4	74.2	56.3	77.2	51.9	76.5	60.4	74.8	54.3	79.3	54.4	80.2	51.0	77.5	59.5	76.8	58.1	77.5	57.1	76.6	54.2	80.2	53.5

[a], [b], [c], etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.
§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.

CLIMATOLOGICAL DATA FOR SEPTEMBER, 1913.

DISTRICT No. 2, SOUTH ATLANTIC AND EAST GULF STATES.

CHARLES F. VON HERRMANN, District Editor.

GENERAL SUMMARY.

The appearance of an unusual number of areas of low atmospheric pressure on the central west Gulf coast was an important feature of the weather during September, although none of these disturbances developed material force or took the usual northeasterly course up the Atlantic coast line. They were accompanied, however, by enormous amounts of precipitation in the extreme southern portions of the Mississippi area, in Alabama, and in northwestern Florida, and undoubtedly aided in bringing about the decided lowering of the temperature during the last two decades of September by favoring a drift of air from the north. The precipitation for the month ranged from 10 to over 20 inches at numerous stations on the immediate Gulf coast from Bay St. Louis eastward to Apalachicola.

Another noteworthy feature was the small storm that entered North Carolina between Wilmington and Hatteras from the Atlantic Ocean on September 3, which instead of recurving northeastward, drifted slowly westward, passing south of Raleigh, where the pressure fell to 29.37 inches, and degenerating into a general rain area over western North Carolina and Virginia on the 4th. This storm was especially destructive to property in eastern North Carolina.

Although quite warm during the first decade the decidedly cool weather from about the 10th to the 26th brought the monthly mean temperatures below the normal in all portions of the district, the State deficiencies reaching 2.5° in the Carolinas, Georgia, and Alabama, and made the month the coldest September on record in some States. Unusually low temperatures occurred particularly on the 22d and 23d, breaking previous records for low temperature in this month at several stations, and causing light frosts over extended areas in the northern portions of the Gulf States and in central western portions of the Carolinas and Virginia, fortunately without material damage to crops. The month closed with temperatures above normal.

The precipitation was very irregularly distributed. It was above normal in all States in the district except Florida, the deficiency there being due to the moderate rainfall over the peninsula, and the limited area of the very excessive rainfall in the northwest portion. The excess for the month was greatest in Mississippi, Alabama, and the western prolongation of Florida. The least amount fell in the Altamaha Basin in southeastern Georgia and in a series of counties stretching across South Carolina just within the coast line, where the amount was under 2 inches.

The highest atmospheric pressure occurred generally in the northern portions of the district on the 16th, in the southern on the 23d or 24th, with a maximum of 30.49 inches at Richmond and Lynchburg, Va. The lowest pressure occurred on the 21st in the north and on the 14th in the south, but the minimum for the district was 29.37 inches at Raleigh on the 3d.

TEMPERATURE.

Nearly the whole of the first decade of September was quite warm, the highest temperatures for the month which occurred on the 7th or 8th in the northern portions of the district and on the 3d in the Gulf States, ranging from 90° to over 100°. The heat wave was most severe in Alabama and Mississippi, where 14 stations reported maximum temperatures of 100° or above. This period of unusual warmth can hardly hold comparison with the similar period in 1912 when maximum temperatures of 100° or above were registered at 100 stations from Virginia to Mississippi.

About the end of the first decade temperatures declined below normal, and the remaining portion of the month, except the last few days, was cool. Two periods of much colder weather occurred about the 14th to 18th and 21st to 26th, during which the deficiencies in temperature were so marked as to fix the general character of the month as decidedly cold, especially in the Carolinas, Georgia, and Alabama. In South Carolina and Georgia the month was the coldest in 20 years, and in Alabama the coldest since September, 1903. The 22d and 23d were the coldest days throughout the district, and minimum temperatures ranged below 40° in all sections, except Florida, where, however, a minimum of 41° was reported. In the northern portions of Alabama and Georgia and in the westrn portions of North Carolina and Virginia the lowest temperatures ranged from 33° to 36°, making new records for low temperatures in September at several stations. Light frosts formed over an extensive region in the northern portions of the district as well as in northern Georgia and Alabama, in which States the occurrence of frost so early in the season is extremely rare.

Although the State averages were all below normal, a slight excess was noted at a few individual stations in Florida. The maximum deficiency ranging from 3° to over 4° occurred in the section from central Georgia northeastward to western North Carolina. The highest monthly mean temperature for the district was 81.4° at Key West, Fla., and the lowest was 61.1° at Rock House, N. C. The highest temperature was 103° at Agricultural College, Miss., and the lowest 33° at Hot Springs, Va.

PRECIPITATION.

The comparatively slight disturbance in the Gulf of Mexico on the 5th when the lowest atmospheric pressure reported was 29.85 inches at Burwood and which subsequently remained as an ill-defined depression on the central west Gulf coast for several days, was accompanied by unusually heavy rains at stations near the coast. During 5 days from the 4th to 8th Apalachicola, Fla., received 11.94 inches, Bay St. Louis 5.61 inches, and several other stations large amounts. On the 13th a similar moderate storm appeared on the west Gulf coast, with the pressure 29.8 inches at Galveston, which moved to northern Louisiana, and thence to the central Mississippi Valley

without materially increasing in force, which was also accompanied by unusually heavy rains in the Gulf States. During the 7 days from the 13th to 19th, Apalachicola, Fla., received 9.67 inches, and during 5 days from the 13th to 16th, Mobile, Ala., received 12.60 inches, Robertsdale, Ala., 9.07 inches, and Spring Hill, Ala., 9.92 inches. The amount at Daphne, Ala., on the 13th and 14th was 13.60 inches, and including the 15th 15.55 inches. The greatest 24-hour rainfall was 7.40 inches at Mobile, Ala., on the 13–14th, large 24-hourly rains occurred in every State in the district. In this region of heaviest rainfall the total for the month was 22.87 inches at Apalachicola, Fla., 23.44 inches at Daphne, Ala., 15.50 inches at Mobile, Ala., and 17.96 inches at Bay St. Louis, Miss.

Heavy rains also occurred in eastern North Carolina in connection with the storm of September 3, the average for the eastern district being 6.65 inches.

The least precipitation, amounting to less than 2 inches for the month, occurred over the Altamaha basin in southeastern Georgia and in a series of counties extending from Hampton to Darlington in South Carolina. The smallest total reported was 0.77 inches at Glennville, Ga. In this section of Georgia, as well as in the extreme northwestern portion, severe drought prevailed from August 16 to September 14. Moderate precipitation also fell over most of the main Peninsula of Florida, bringing the average for that State considerably below normal in spite of the very heavy rainfall over its western prolongation. In all other States in the district the State averages were above normal, with maximum excess in the Mississippi area, +5.24 inches.

In the northern portions of the district the rains occurred in fairly distinct periods from the 2d to 5th, 15th to 22d, and 29th to 30th, the number of fair days averaging about 14 during the month. In the southern part there were only 2 periods of dry weather, a very short one about the 12th and from the 22d to 27th, inclusive, the average number of rainy days being 10.

MISCELLANEOUS PHENOMENA.

The prevailing direction of the wind was northeast in all the States from Virginia to Georgia, but more nearly east or southeast in the Gulf States. High wind velocities were reported at many stations on the Atlantic coast, namely Charleston, S. C., 62 miles from the northeast on the 9th, Hatteras 74 miles southeast on the 3d, Norfolk 50 miles east and Cape Henry 52 miles east on the 3d. The average hourly wind velocity exceeded 10 miles an hour at Norfolk, Cape Henry, Hatteras, Charleston, Pensacola, and Sand Key.

The average number of clear days for the district was 12, partly cloudy days 8, and cloudy days 10. The amount of sunshine was generally less than the normal for September, the average of 17 stations giving 221 hours of actual sunshine or 60 per cent of the possible amount. The highest percentage was 73 at Charleston, S. C., and the least 44 at Hatteras, N. C., followed by 47 at Montgomery, Ala.

METEORS.

A number of brilliant meteors were observed during the month in various portions of the district. On the evening of the 4th large meteors were observed at Thomasville, Ga., Pensacola, Fla., and Mobile, and Citronelle, Ala. From the times of appearance and direction of motion it is believed they were the same meteor seen from different points. It was first observed at Thomasville at 7.10 p.m. at an altitude of 30°, moving westward; the tail or streamer was very bright, many colored, and about 10° long. Mr. F. Rust Smith, who observed it at Pensacola, states that the meteor came from the southeast and passed toward the northwest at 7.14 p. m., being visible for about 1 minute. Its head was apparently about 1 foot in diameter, and the tail about 3 feet long, and emitted a pale blue light from the head and yellow from the streamer. The meteor was still quite brilliant when observed some time later at Mobile and Citronelle, Ala.

A fine meteor was also observed on the evening of September 12 over southeastern Virginia. Mr. Kimball, of the Richmond station, furnished the following abstract from a more complete report made by Mr. C. W. Ashby, cooperative observer at Newport News, Va.

At Newport News the phenomenon first appeared in the zenith of a cloudless, moonlit sky as a meteor of moderate brightness at exactly 7.15 p. m., and disappeared four seconds later in a burst of sparks about 10° above the southeastern horizon. The meteor was roughly speaking rectangular in outline, the rear end being drawn out into a short tail, while the head was enveloped and somewhat obscured by a slight haze. A shower of sparks followed the meteor, but no luminous trail such as often accompanies meteors was observed. In its downward flight a white light was emitted which increased in intensity, taking a greenish tint as the meteor reached its point of greatest brilliancy on the completion of the first 45° of arc. The light then changed to a yellowish red which deepened as the lower end of the path was neared.

The meteor is thought to have been one of unusual size, since the various phases of its flight could readily be seen notwithstanding the fact that the full moon was shining directly in the face of the observer.

On the same date a meteor was reported to have fallen in the Broad River, near Corn Island, S.C., by Mr. L. L. Rice, who observed it from launch about a quarter of a mile distant.

SEVERE LOCAL STORMS.

On September 18, 1913, at 3 p. m., a severe storm with all the characteristics of a tornado visited Conway, Horry County, S. C., causing a loss of about $3,000.

RIVER CONDITIONS.

The heavy rains in the Gulf States were mostly limited to the lower courses of the rivers and had comparatively little influence on river stages, which remained low throughout most of the month, flood stages not having been attained at any point. In the Carolinas, however, the heavy rains of the 3d and 4th, and again on the 18th and 19th, caused moderate floods for which suitable warnings were issued.

On September 4 warnings were issued by the official at Raleigh for a considerable rise in the rivers of eastern North Carolina. The stages indicated for the Roanoke and Cape Fear Rivers, however, were not above flood stage. The Roanoke at Weldon rose to 26.9 feet on the 6th, and the rise in the Cape Fear River at Fayetteville was from 3 to 24 feet within 24 hours. The overflow of the Tar River was slow and moderate, while that of the Neuse was quick and heavy. On the Tar River flood stages were attained as follows: At Tarboro 20 feet on the 9th (flood stage, 18 feet), at Greenville 15.2 feet on the 10th (flood stage, 13 feet), and in the Neuse River, Neuse reported 18.5 feet on the 4th (flood stage, 12 feet) and Smithfield 19 feet on th 5th (flood stage, 13 feet). The loss to buildings, factories, highways, and bridges was about $10,000, to crops about $5,000, and the loss due to suspension of business was also about $5,000. The money value of the property saved by the warnings was about $10,000.

General rains of from 1.35 to 2.70 inches over the greater part of the Wateree, Broad, and Saluda watersheds on the 18th and 19th resulted in rises to somewhat above flood stages in the lower Wateree and upper Santee Rivers from the 21st to the 27th, warnings for which were issued during the late afternoon of September 19 by the official at Columbia, S. C. The following stages were attained: At Rimini the water stood above the flood stage from the 21st to 25th, with a crest of 12.9 on September 22 (flood stage, 12 feet).

At Ferguson the river was above flood stage from September 24 to 27, with a crest of 12.6 feet on the 25th (flood stage, 12 feet). The losses were confined to live stock that could not be driven from the swamps, estimated at about $250. Money value of the property saved by the warnings about $12,000.

THUNDERSTORM AT CHARLESTON, S. C., SEPTEMBER 9, 1913.

By J. H. SCOTT, Local Forecaster.

A violent thunderstorm, as sudden as it was severe, struck Charleston about 2.55 p. m., September 9, 1913. The forenoon of that day was almost cloudless and the temperature mounted rapidly to 90° at about 2. p. m., notwithstanding the presence of a strong and extensive area of high pressure pushing southeastward from the Lake region. This "high" undoubtedly contributed to the formation of the storm by overrunning the warm surface layers with colder air, and determined the direction of movement. About 2 p. m. a cumulus cloud was observed forming in the northeast, and at 2.20 p. m., while the cloud was as yet comparatively small, thunder was first heard, after which developments were rapid. The cloud grew apace, and following the Wando and Cooper Rivers, bore down on the city, the thunder becoming almost a continuous roar. The writer has witnessed few clouds of such terrifying aspect. The cloud had a distinct greenish hue; its front was torn by violent winds which lashed to foam the waters of the harbor. It struck the city about 2.55 p. m. and by 3.03 p. m. the wind had attained a velocity of 62 miles per hour from the northeast, maintaining this velocity for the succeeding five minutes. Rain began at 2.56 p. m., and from 3.04 to 3.19 was mixed with hail. From 3.07 to 3.14 p. m. the hailstones were particularly large, many being 1½ inches in their longest diameter. By 3.15 p. m. the wind had diminished to ordinary velocities, but a slow rain continued until 5.30 p. m. Just before and during the storm the temperature fell from 90° to 65°.

The storm presented none of the characteristics of a tornado, though its path of greatest violence was rather limited; but little hail fell at the navy yard, 7 miles north, and on Sullivans Island, 5 miles east, there was neither hail nor violent winds. A few miles southwest of the city the storm was reported as mild in character.

Notwithstanding the suddenness and high velocity of the wind, little damage resulted, although a temporary panic prevailed among the passengers of the ferryboat *Lawrence*, which was blown considerably out of her course. Fishermen caught in the harbor saved themselves by lowering their masts and lying beside them flat in the bottom of their small boats until the storm had passed. Two windows were blown in at the Union Station, and street cars were temporarily tied up on two lines. A box car standing in front of the east entrance to the customhouse had its roof lifted bodily, hurled some 30 feet, and deposited in an inverted position in front of the customhouse.

The maximum wind velocity in this storm has been equaled at this station only once before in September. This occurred September 29, 1896, but in that instance the wind was occasioned by a general storm of the hurricane type.

THE STORM OF SEPTEMBER 3, 1913, IN EASTERN NORTH CAROLINA.

By LEE A. DENSON, Section Director, Raleigh, N. C.

The morning weather map of September 1, 1913, revealed the presence of a disturbance, apparently of very moderate force, central in the Atlantic Ocean about 300 miles southeast of the coast of North Carolina in which the lowest pressure was about 29.9 inches. On the morning of the 2d this storm was evidently approaching the coast, the pressure having fallen to 30.05 inches at Hatteras, with high northeast winds and rain. The center of the disturbance moved inland between Hatteras and Beaufort, N. C., took a westerly course, and passed south of Raleigh about 2 p. m. of the 3d. The barograph trace at this station is of interest in showing the rapidity of the fall and rise of pressure, although the lowest pressure reached was only 29.37 inches at 2.10 p. m. of that date. After leaving the coast section the storm diminished rapidly in intensity and finally spent its force before reaching the mountain region. Over the main portion of the eastern half of the State it was attended by high winds and a rainfall of from 2 to 5 inches, but the rainfall was not heavy after reaching the Cape Fear watershed. Great damage to property and crops resulted over the eastern portion of the State, especially in the Pamlico Sound section, owing to the high waves from the Sound. The highest wind velocity registered was 74 miles from the southeast at Hatteras. At Raleigh the maximum velocity was 37 miles from the northeast, at Wilmington 30 miles from the west, while at Charlotte there was no wind of any consequence.

The greatest loss of property occurred in the vicinity of Washington and Newbern, where the water driven by northeast to southeast gales is reported to have risen 10 feet above previous high-water marks. The bridge of the Norfolk & Southern Railroad at Washington, a mile in length, was washed away, and also a similar bridge at Newbern, and many other small bridges and trestles. The loss by inundation of the lower streets, also to small boats and fishing craft, was very heavy. Telegraph and telephone lines were prostrated or damaged over a wide area. Crops suffered severely, there being considerable damage even as far west as Wake and Durham Counties. At Farmville, N. C., two boys were killed by the collapse of a warehouse, and several people were injured. The total loss of property was probably over $3,000,000.

In the vicinity of Norfolk, Va., the damage by wind was not great. In the open country telegraph and telephone poles and trees were blown down, and at Ocean View, Newport News, and Old Point, Va., a number of small houses were unroofed. There were no marine disasters in Hampton Roads.

TABLE 1.—*Climatological data for September, 1913. District No. 2, South Atlantic and East Gulf States.*

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, 0.01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Virginia.																				
Arvonia	Buckingham	350	9	67.4	− 1.6	90	7	38	23	34	2.58	− 0.92	0.83	0	7	14	7	9	sw.	Rev. Plummer F. Jones.
Ashland	Hanover	221	22	67.5	− 1.5	90	7	42	23	31	3.64	+ 0.24	1.26	0	6	7	18	5	s.	E. L. C. Scott.
Buchanan	Botetourt	820	9								3.50	− 0.27	1.39	0	8					D. D. Booze.
Callaville	Brunswick	250	19	69.7	− 0.2	91	1†	37	23	39	2.49	− 0.85	1.67	0	5	21	6	3	e.	F. M. Gage.
Cape Henry	Princess Anne	20	39	71.6	− 0.2	89	8†	56	23	22	2.27	− 1.81	1.22	0	4	13	10	7	e.	U. S. Weather Bureau.
Catawba	Roanoke	1,720	2	64.2	.....	85	7	37	22	36	3.49	.....	1.30	0	10	17	9	4	w.	State Board of Health Sanitarium.
Charlottesville	Albemarle	800	24	.....	.....	91	7	.....	.....	.....	2.55	− 1.78	0.96	0	7	.....	.....	.....	.....	Leander McCormick Observatory.
Clarksville	Mecklenburg	286	19								4.78	+ 1.91	2.40	0	7					J. A. Ligon.
Columbia	Fluvanna	246	15	67.0	− 1.6	89	7	38	23	33	4.02	+ 0.80	1.17	0	7	11	7	12	ne.	Chesapeake & Ohio Ry. Co.
Danville	Pittsylvania	413	13								4.95	+ 1.78	3.59	0	6					C. G. Watkins.
Diamond Springs	Princess Anne	25	3	70.5	.....	91	8	43	23	30	3.67	.....	1.37	0	9	16	9	5	.....	Virginia Truck Exp. Sta.
Dry Bridge	Chesterfield	325	2								2.70	.....	1.27	0	5					Dr. E. W. Magruder.
Hampton	Elizabeth City	5	30	71.6	0.0	88	8	50	23	22	3.30	+ 0.34	1.70	0	4	17	12	1	ne.	Normal and Agricultural Institute.
Hot Springs	Bath	2,195	21	61.3	− 1.3	82	7†	33	23	40	3.21	− 0.43	1.85	0	7	18	4	8	.....	A. M. Tait.
Ivor	Southampton	87	4	68.4	.....	91	7	39	23	38	4.38	.....	2.25	0	5	.....	.....	.....	.....	Norfolk & Western Ry. Experiment Farm.
Lassiter	Goochland	100	3								2.60	.....	1.50	0	5	23	2	5	.....	T. J. Davis.
Lexington	Rockbridge	1,060	36	65.0	− 1.5	91	6	34	23	40	2.31	− 1.49	0.68	0	10	11	10	9	.....	Virginia Military Institute.
Lynchburg	Campbell	685	42	67.5	− 0.9	89	6	39	23	35	2.44	− 1.19	0.72	0	9	11	15	4	ne.	U. S. Weather Bureau.
Newport News	Warwick	55	10	70.7	.....	92	6†	45	23	27	3.53	.....	1.44	0	10	12	14	4	ne.	C. W. Ashby.
Norfolk	Norfolk	91	43	70.8	− 0.9	89	7	54	23	22	5.23	+ 1.17	2.11	0	11	11	11	8	ne.	U. S. Weather Bureau.
Randolph	Charlotte	334	9	.....	.....	.....	.....	.....	.....	.....	3.66	.....	2.41	0	3	.....	.....	.....	.....	W. J. Abbitt.
Richmond	Henrico	144	34	69.0	− 1.8	89	7	43	23	30	3.20	− 0.23	1.32	0	9	13	9	8	ne.	U. S. Weather Bureau.
Roanoke	Roanoke	907	3	65.4	.....	89	7	37	23	37	3.83	.....	1.69	0	7	16	7	7	se.	Capt. Reese F. Bell.
Rocky Mount	Franklin	1,150	19	66.6	− 3.6	89	1	38	23	38	4.73	+ 1.39	1.58	0	7	.....	.....	.....	.....	G. W. B. Hale.
Ruckersville	Greene	625	2	67.0	.....	94	7	35	23	44	2.50	.....	1.08	0	8	.....	.....	.....	.....	Dr. Jesse Ewell.
Runnymede (near)	Surry	15	25	70.3	+ 1.7	91	5†	41	23	29	5.34	+ 2.06	2.75	0	6	15	3	12	ne.	B. W. Jones.
Stuart	Patrick	1,188	1	64.0	.....	86	1†	33	23	40	11.07	.....	2.43	0	12	16	5	9	sw.	Miss Etta Rickman.
West Point	King William	15	1	70.8	.....	91	7	43	23	30	4.07	.....	1.50	0	8	20	2	8	s.	C. L. Maskey.
Williamsburg	James City	70	22	70.4	+ 1.7	91	7	47	24	27	4.34	+ 0.56	1.55	0	7	16	8	6	ne.	Eastern State Hospital.
North Carolina.																				
Albemarle	Stanly	700	1	69.0	.....	92	8	38	23	42	3.47	.....	0.96	0	12	18	3	9	sw.	M. J. Harris.
Altapass (near)	McDowell	2,133									5.64		1.65	0	12					R. F. Brewer.
Beaufort	Carteret	10	12	73.8	− 2.1	90	8	57	22	21	7.61	+ 3.74	3.55	0	10	18	3	9	s.	Lewis Radcliffe.
Brewers	Wilkes	1,950	16	66.1	− 3.1	90	8	36	23	44	5.61	+ 1.04	1.93	0	14	10	8	12	w.	W. L. Brewer.
Caroleen	Rutherford	806	13	68.0	− 4.0	90	1	40	22	34	5.23	+ 1.21	1.80	0	10	12	9	9	sw.	S. B. Tanner.
Chalybeate Springs	Harnett	500	7	69.0	.....	91	8	38	23	39	4.86	.....	1.40	0	8	16	6	8	ne.	J. A. Smith.
Chapel Hill	Orange	500	55	69.0[a]	− 2.5	93	6	45	23	30	4.58	+ 1.26	2.10	0	7	15	9	6	sw.	Prof. A. H. Patterson.
Charlotte	Mecklenburg	773	37	68.6	− 2.1	90	8	46	22	28	2.45	− 0.77	0.76	0	11	10	6	14	ne.	U. S. Weather Bureau.
Chimney Rock	Rutherford	1,150	3	67.2	.....	90	2	40	22	33	6.18	.....	1.50	0	15	15	6	9	w.	J. M. Flack.
Durham (near)	Durham	406	4								7.33	.....	4.07	0	7					J. C. Michie.
Eagletown	Northampton	66	8	70.4	.....	90	7†	44	23	30	6.80	.....	3.38	0	8	15	14	1	sw.	J. T. Elliott.
Edenton	Chowan	30	19	71.4	− 0.7	92	4†	43	23	30	7.20	+ 4.15	3.55	0	7	15	7	8	e.	E. R. Conger.
Elizabeth City	Pasquotank	8	1	71.4	.....	90	6	45	23	31	9.10	.....	2.00	0	7	17	8	5	ne.	W. J. Simmons.
Elizabethtown	Bladen	60	2								5.58	.....	2.08	0	6					H. H. Barnhill.
Elkin	Surry	874									3.93	.....	1.50	0	7					Mrs. Cynthia L. Myers.
Enfield (near)	Halifax	99	2								5.28	.....	1.83	0	10					T. S. Inborden.
Fayetteville	Cumberland	170	26	71.2	− 0.8	92	8	45	23	33	5.47	+ 1.17	1.58	0	10	16	2	12	s.	Frank Glover.
Globe (near)	Caldwell	1,800	1								6.96	.....	1.27	0	11					Julius L. Gragg.
Goldsboro	Wayne	102	43	68.7	− 4.1	87	8	44	23	30	6.39	+ 1.81	1.54	0	12	15	10	5	s.	Mrs. J. J. Robinson.
Gorge (near)	Caldwell	1,358	1								12.41	.....	4.30	0	16					A. J. Bagley.
Graham	Alamance	656	11								4.71	+ 0.95	3.30	0	11					Dr. W. R. Goley.
Greensboro	Guilford	843	32	67.0	− 4.0	87	8	45	22†	30	4.15	+ 1.18	1.62	0	10	.....	.....	.....	ne.	A. H. Horry.
Greenville	Pitt	75	20	70.0	.....	86	5†	45	22	30	8.31	+ 3.34	2.75	0	11	13	5	12	ne.	R. M. Hearne.
Hatteras	Dare	11	39	73.0	− 1.6	86	8	62	12	15	7.28	+ 1.95	3.33	0	13	13	10	7	ne.	U. S. Weather Bureau.
Henderson	Vance	508	20	68.5	− 3.6	89	8	45	23	27	6.76	+ 3.23	4.26	0	10	13	10	7	ne.	Enoch Powell.
Hickory	Catawba	1,165	....	68.0	.....	92	8	41	23	35	5.40	.....	1.41	0	13	16	6	8	nw.	Frank B. Gwin.
Kings Mountain	Cleveland	952	1	67.8	.....	91	8	43	22†	33	4.02	.....	1.90	0	10	16	6	8	sw.	G. T. King.
Kingston	Lenoir	46	15	71.0	− 2.2	92	6†	43	23	36	8.28	+ 5.76	2.75	0	11	14	6	10	ne.	H. V. C. Peebles.
Lincolnton	Lincoln	994	7	66.5	.....	91	1	40	22†	34	5.45	.....	1.41	0	10	6	13	11	nw.	S. P. Tanner.
Louisburg	Franklin	375	22	69.8	− 1.4	92	8	43	23	33	6.90	+ 3.60	5.01	0	7	15	9	6	sw.	T. B. Wilder.
Lumberton	Robeson	102	30	71.6	− 1.3	93	7	44	23	39	5.79	+ 1.51	1.61	0	10	.....	.....	.....	ne.	B. M. Davis.
Manteo	Dare	12	8	71.4	.....	91	8	49	24	30	8.93	.....	2.56	0	7	13	10	7	ne.	U. S. Weather Bureau.
Marion	McDowell	1,425	21	66.1	− 3.1	88	8	36	22	43	5.89	+ 1.01	1.25	0	14	12	11	7	w.	Sergt. Thomas McGuire.
Moncure	Chatham	145	19	68.1[a]	− 3.8	91	1	39	23	39	4.11	+ 0.12	0.91	0	10	15	3	12	ne.	B. J. Utley.
Monroe	Union	586	19	68.6	− 2.1	92	8	39	23	37	5.74	+ 1.81	3.21	0	10	15	4	11	ne.	T. A. Ashcraft.
Morganton	Burke	1,135	26	66.2	− 3.3	88	1†	38	23	35	5.26	+ 1.11	1.22	0	14	13	8	9	se.	J. B. P. Massey.
Mount Airy	Surry	1,048	25	65.9	− 2.3	89	1†	38	23	36	3.87	+ 0.10	0.96	0	10	16	5	9	s.	Prof. A. H. Merritt.
Mount Holly	Gaston	616	16	.....	.....	.....	.....	.....	.....	.....	6.23	+ 2.33	1.56	0	11	.....	.....	.....	.....	J. W. Holland.
Nashville	Nash	190	9	69.8	.....	91	6†	42	23	36	7.57	.....	5.08	0	8	12	9	9	ne.	J. B. Boddie.
Neuse	Wake	266	1								5.83	.....	3.40	0	7					E. M. Allen.
Newbern	Craven	12	31	72.8	− 0.8	93	6†	48	23	34	8.45	+ 3.49	4.35	0	10	11	10	9	se.	J. B. Hill.
North Wilkesboro(near)	Wilkes	1,700	1								6.80	.....	2.64	0	6					Dr. Charles A. Willis.
Parkersburg	Sampson	121	1	71.4	.....	95	8	41	23	44	5.15	.....	2.15	0	4	13	9	8	se.	E. J. Conway.
Pinehurst	Moore	650	9	70.0	.....	93	8	44	23	33	4.57	.....	1.34	0	11	22	3	5	n.	General Office.
Pittsboro	Chatham	480	20	68.8	− 1.8	91	2	38	22	36	4.20	+ 0.30	2.40	0	9	.....	.....	.....	n.	Mrs. J. F. Alston.
Raleigh	Wake	390	42	69.5	− 1.1	90	8	46	23	28	6.03	+ 2.69	2.79	0	8	9	12	9	ne.	U. S. Weather Bureau.
Ramseur	Randolph	442	6	68.2	.....	92	8	40	23	38	4.20	.....	1.44	0	10	13	10	7	n.	A. H. York.
Randleman	..do.	810	8								5.33	.....	2.50	0	9					L. D. Mendenhall.
Reidsville	Rockingham	828	14	67.7	− 2.9	90	7	43	22	29	5.97	+ 3.22	2.60	0	11	11	7	12	sw.	E. M. Redd.
Rock House	Macon	3,100	21	61.1	− 5.2	82	2	36	22	26	9.79	+ 3.09	1.66	0	15	7	12	11	ne.	Barry C. Hawkins.
Rockingham	Richmond	210	18	69.8	− 4.1	90	8	43	22	31	4.93	+ 1.11	1.80	0	10	.....	.....	.....	.....	H. S. Ledbetter.
Rocky Mount	Nash	105	2								5.35	.....	2.50	0	5	.....	.....	.....	.....	G. P. Womble.
Rougemont	Durham	549		.....	.....	.....	.....	.....	.....	.....	6.89	.....	3.70	0	7	.....	.....	.....	.....	H. L. Carver.
Salisbury	Rowan	760	29	69.0	− 2.7	90	1†	42	22†	38	4.72	+ 1.56	2.40	0	7	21	0	9	w.	Miss Thelma Wilkinson.
Saxon	Stokes	900	21	.....	.....	90	8	.....	.....	.....	4.19	+ 0.91	2.30	0	6	17	3	10	s.	L. A. Duncan.
Scotland Neck	Halifax	80	9	66.9	.....	85	5†	41	23	32	5.30	.....	2.05	0	8	13	2	15	ne.	J. Y. Savage.
Settle	Iredell	700	17	66.6	− 4.4	90	8	38	22†	38	4.62	+ 1.50	2.43	0	11	13	8	9	ne.	C. H. Smith.
Sloan	Duplin	50	20	70.6[a]	− 3.2	90	6†	43	23	35	6.00	+ 2.51	1.77	0	10	12	6	12	s.	D. M. Sholar.
Smithfield	Johnston	151	23	71.0	− 1.6	92	8	43	23	34	5.15	+ 1.82	1.30	0	8	18	4	8	s.	Edwin S. Sanders.

TABLE 1.—*Climatological data for September, 1913. District No. 2*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, 0.01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
North Carolina—Contd.																				
Southport	Brunswick	18	58	73.4	− 3.5	89	1	51	23	23	5.65	+ 1.08	2.46	0	11	13	7	10	ne.	Mrs. C. E. Taylor.
Statesville	Iredell	950	25	67.2	− 3.2	88	1†	40	22†	35	3.89	− 0.31	1.72	0	11	11	9	10	sw.	D. Matt Thompson.
Tarboro	Edgecombe	50	28	72.1	− 0.8	93	5	44	23	34	7.77	+ 4.60	2.78	0	11	14	7	9	ne.	E. V. Zoeller.
Tryon (near)	Polk	1,300	1								5.29		1.64	0	12					W. T. Lindsey.
Weldon	Halifax	81	41	69.0	− 2.4	89	8	43	23	30	4.72	+ 0.98	1.59	0	7	10	9	11	n.	H. S. S. Cooper.
Willard	Pender	51	5	70.7		90	8	45	23	35	6.96		1.82	0	8	16	2	12	s.	J. H. Jefferies.
Wilmington	New Hanover	52	42	71.8	− 1.3	88	8	51	23	23	3.54	− 1.73	0.94	0	10	12	7	11	ne.	U. S. Weather Bureau.
Winston-Salem	Forsyth	1,000	18	66.0	− 4.8	88	8	38	22†	35	4.70	+ 1.73	2.56	0	7	13	0	17	ne.	Rev. H. E. Rondthaler.
South Carolina																				
Aiken	Aiken	565	18	72.6	− 2.0	93	3	43	21	34	5.00	+ 1.01	1.20		8	14	8	8	se.	C. E. Carman.
Allendale	Barnwell	186	24	74.6	− 1.3	93	4	46	23	33	4.00	+ 0.35	1.30		11					S. B. Rouse.
Anderson	Anderson	764	11	71.0	− 1.9	92	1	43	22	30	6.20	+ 2.58	1.32		10	15	1	14	e.	H. H. Russell.
Batesburg	Lexington	656	24	70.4	− 3.4	92	1	43	22	30	6.82	+ 3.16	2.10		11					E. J. Hite.
Beaufort	Beaufort	20	26			87[b]	8	52[b]	23†	26	8.87	+ 3.92	4.00		8					Miss Lillian H. Rice.
Blackville	Barnwell	296	23	73.8	− 1.7	97	1	43	22	38	3.83	− 0.21	0.93		14					Mrs. D. B. Sanders.
Blairs	Fairfield	293	7								4.20		1.50		8					J. N. Owens.
Bowman	Orangeburg	160	11	71.9	− 3.1	92	2†	42	22†	38	3.34	+ 0.29	1.04		9	19	7	4	sw.	B. O. Evans.
Broxton	Hampton		2								1.77		0.60		7					Thomas D. Williams.
Calhoun Falls	Abbeville	508	19								5.99	+ 1.92	1.38		11					L. M. Parker.
Camden	Kershaw	222	46	72.0		93	8	42	26	43	4.94	+ 1.14	2.00		8					W. C. Brown.
Catawba	York	562	7								5.79		1.93		9					James C. Faris.
Chappells	Newberry	402	7								5.19		2.00		9					J. J. Murran.
Charleston	Charleston	48	42	75.0	− 1.2	90	2	53	22	25	7.26	+ 1.80	3.58		13	15	6	9	ne.	U. S. Weather Bureau.
Cheraw	Chesterfield	144	24	71.2	− 2.0	92	8	43	23	38	3.22	− 0.35	1.00		8					J. H. Powe.
Columbia	Richland	351	26	72.0	− 1.7	92	1	48	22	30	4.77	+ 1.32	1.67		9	11	9	10	e.	U. S. Weather Bureau.
Conway	Horry	20	30	73.6	− 0.9	90	1	48	23†	33	8.15	+ 3.90	2.55		7	19	0	11	s.	Paul Quattlebaum.
Darlington	Darlington	175	17	72.0[a]		93[a]	7†	42[a]	23	37[a]	2.08	− 1.65	0.73		6	16	4	10		D. C. McCall.
Dillon	Marion	100	8	71.4	− 3.2	92	8	46	23	32	4.73	+ 1.12	1.49		7					A. E. Rowell.
Edgefield	Edgefield										4.14		1.71		5					T. L. Timmerman.
Edisto	Bamberg	127	25								4.65	+ 1.39	1.60		9					Nathan Jenkins.
Effingham	Florence	106	20								1.82	− 1.75	0.65		7					H. B. McCall.
Ferguson	Berkeley	51	4	73.2	− 0.3	92	3	45	23†	39	1.96	− 1.75	0.90		7					Joseph P. Simons.
Florence	Florence	136	24	72.2	− 2.6	95	8	46	23	37	3.28	+ 0.96	1.04		7					H. K. Gilbert.
Gaston Shoals	Cherokee										4.62		0.76		15					Harry A. Parshall.
Georgetown	Georgetown	12	19	73.4	− 2.2	90	4	51	22†	30	7.05	+ 3.37	2.16		8	16	8	2	ne.	A. P. Hazard.
Greenville	Greenville	989	20	67.8	− 2.5	91	1†	40	22	35	4.45	+ 0.48	1.34		8	15	0	15	e.	Spartan Goodlette.
Greenwood	Greenwood	671	24	69.3	− 3.9	91	1	44	22†	31	5.18	+ 1.41	1.90		13					M. M. Calhoun.
Heath Springs	Lancaster	568	11	68.9		91	1	44	23	31	4.35		1.27		7	12	5	13	ne.	J. Marvin Bowers.
Kingstree	Williamsburg	57	24	72.6	− 2.4	92	1†	45	22†	36	5.00	+ 1.26	1.48		9					A. O. Matthews.
Liberty	Pickens	900	18	69.4	− 3.3	92	2	40	22	34	6.12	+ 1.48	2.15		8	12	10	8	se.	John T. Boggs.
Little Mountain	Newberry	711	19	71.8	− 3.3	92	1	45	22	36	3.42	− 0.48	0.91		5	25	0	5	ne.	J. M. Sease, M. D.
Meriwether	Edgefield		3	73.0[b]		94[b]	1	43[b]	22	37	4.17		1.30		10	13	3	14		William S. Middleton.
Monetta	Saluda		1	72.4		93	1†	44	22	30	5.14		1.91		11	13	7	10	ne.	Joseph M. Johnson.
Newberry	Newberry	502	8	70.4	− 3.5	92	1	42	22	33	4.19	+ 0.09	1.65		10	6	12	12	ne.	W. G. Peterson.
Pelzer	Anderson	873	7								5.94		1.02		11					J. M. Ward.
Pinopolis	Berkeley	55	19								4.39	− 0.09	2.44		9	13	0	17	nw.	Miss E. P. Ravenel.
St. George	Dorchester	109	24	73.3	− 1.7	97	1	42	24	43	2.19	− 1.89	0.55		10					G. F. Lewis.
St. Matthews	Orangeburg	269	24	72.8	− 1.7	95	1†	45	22	39	5.17	+ 1.68	2.55		7					J. S. Wannamaker.
Saluda	Saluda	530	10	70.7		93	1	42	22†	36	6.77		1.58		11	17	7	6	w.	Mrs. F. V. J. Maxwell.
Santuck	Union	572	17	71.2[a]	− 1.6	99[a]	7	44[a]	23	38[a]	5.21	+ 1.84	1.89		13	12	7	11	ne.	E. W. Jeter.
Smiths Mills	Georgetown	62	17								3.34	+ 0.90	1.70		12					W. G. Walker.
Society Hill	Darlington	75	15	72.0	− 1.2	92	7	43	22	38	2.15	− 2.04	1.05		7	13	11	6	ne.	T. Ellison Simpson.
Spartanburg	Spartanburg	875	21	68.4	− 3.9	93	8	41	22	36	5.29	+ 1.42	1.05		12					F. P. Robinson.
Summerville	Dorchester	75	15	72.8	− 2.0	90	4	47	23	30	5.78	+ 2.00	2.49		12	2	25	3	e.	Miss E. H. Gadsden.
Trenton	Edgefield	620	15	71.6	− 3.6	96	1	44	22	39	5.47	+ 2.28	1.80		10	15	9	6	e.	C. A. Long.
Winnsboro	Fairfield	545	22	70.0	− 2.6	88	1†	45	22	29	3.15	− 0.31	0.90		7	16	12	2	se.	J. W. Seigler.
Winthrop College	York	690	13	70.4	− 2.3	95	8	43	22	35	4.43	+ 1.43	1.64		9	14	8	8	ne.	W. P. Goodman.
Yemassee	Hampton	24	17	72.6	− 2.9	92	1	42	23	35	3.17	− 0.91	0.90		11					J. G. Hutson.
Georgia.																				
Abbeville	Wilcox	180	10								4.06	− 1.71	0.76	0	10	14	1	15	e.	W. H. Calhoun.
Adairsville	Bartow	772	21	73.1	+ 0.6	93	2†	39	22	37	3.15	− 0.10	1.88	0	5	11	6	13		Mrs. R. C. Evins.
Albany	Dougherty	232	26	75.6	− 2.2	92	2	45	22	28	4.65	+ 1.54	0.82	0	11	11	7	12	ne.	George C. Brosnan.
Allapaha	Berrien	293	23	75.1	− 1.7	94	2	44	22	39	1.95	− 1.98	0.54	0	11	7	12	11	ne.	J. F. Rice.
Americus	Sumter	362	28	73.0	− 3.5	90	2	45	22	26	5.83	+ 2.59	1.35	0	10	15	8	7	ne.	Joseph M. Bryan.
Athens	Clarke	694	31	68.8	− 3.2	92	1†	41	22	32	5.52	+ 2.01	1.31	0	13	16	2	12	e.	C. D. Cox.
Atlanta	Fulton	1,218	48	70.4	− 1.7	92	2	45	22	24	2.40	− 1.01	0.70	0	13	11	6	13	ne.	U. S. Weather Bureau.
Augusta	Richmond	180	67	72.7	− 2.2	92	1	47	22	30	2.60	− 0.87	1.19	0	10	11	7	12	ne.	Do.
Bainbridge	Decatur	119	21	75.6	− 1.8	94	2	44	22†	38	2.09	− 1.82	0.77	0	11	16	3	11	ne.	W. H. Morrow.
Barnesville	Pike	875	3								5.79		1.35	0	11					Prof. T. O. Galloway
Butler	Taylor	650	12								5.68	+ 1.86	1.13	0	9	19	2	9	se.	Mrs. M. F. Wallace.
Camak	Warren	613	21	72.8	− 1.6	96	3	44	23†	34	4.45	+ 0.23	1.20	0	8	11	3	16	e.	J. A. Chapman.
Canton	Cherokee	894	22								3.34	+ 1.00	1.25	0	6	13	2	15	nw.	Mrs. Ada P. Mills.
Carlton	Madison	557	14								5.93	+ 2.36	1.46	0	12	14	1	15	e.	M. C. Power.
Clayton	Rabun	2,100	19	65.8	− 2.7	85	8	36	22	33	4.77	− 0.24	0.86	0	9	18	1	11	w.	A. J. Duncan.
Columbus	Muscogee	262	25	75.0	− 2.0	96	2†	46	22	33	2.98	− 0.30	0.45	0	16	15	0	15	e.	A. J. Land.
Concord	Pike	850		70.0		91	1	43	22	30	4.99		1.08	0	11	19	3	8		C. T. Smith.
Covington	Newton	800	21								6.05	+ 3.37	2.20	0	12	13	1	16	e.	Mrs. Sarah E. Cruse.
Dahlonega	Lumpkin	1,519	21	67.0	− 2.9	89	2†	36	22	35	3.99	− 0.51	2.38	0	11	12	12	6	se.	Prof. B. P. Gaillard.
Dublin	Laurens	452	19	73.6		94	9	43	22	36	4.19	+ 1.38	1.77	0	9	19	5	6	se.	Mrs. M. E. Martin.
Eastman	Dodge	361	21	75.7	− 1.2	97	3†	47	22	33	2.59	− 0.92	1.11	0	9	9	11	10	e.	Mrs. Grace Bohannon.
Eatonton	Putnam	577	9	71.8		96	1	40	22	37	3.73	+ 1.16	1.15	0	10					Prof. W. C. Wright.
Elberton	Elbert	710	21	71.2	− 3.1	93	1†	41	22	32	7.84	+ 4.67	2.50	0	12	17	6	7	e.	H. A. Roebuck.
Experiment	Spalding	946	12	71.8	− 2.1	89	2	47	22	21	4.98	+ 2.10	1.23	0	12					J. H. Kimburgh.
Fort Gaines	Clay	116	25	74.8	− 1.6	96	2	42	23	33	3.36	+ 0.27	1.23	0	9	14	2	14	ne.	Miss Eva T. Graham.
Gainesville	Hall	1,254	34	66.4	− 3.6	91	2	37	22	34	5.52	+ 1.56	2.28	0	12	16	0	14	e.	W. C. Walker.
Gills ille	do	1,052	21								5.35	+ 1.35	1.07	0	11	16	0	14	s.	G. W. Lichtenstine.
Glennville	Tattnall		8	74.2		91	4	46	22	27	0.77		0.24	0	7	14	9	7	e.	Miss Fannie Barnard.
Gore	Chattooga	729	14	71.2	− 1.1	93	2	37	22	40	5.78	+ 2.28	3.42	0	10	16	7	7	se.	H. M. Ponder.
Granite Hill	Hancock		1	71.2		90	1	42	22	33										James T. McGee.
Greensboro	Greene	598	11	70.8	− 4.5	95	1	40	22	37	5.20	+ 2.32	1.91	0	10	14	6	10	ne.	R. L. Caldwell.
Griffin	Spalding	975	24	71.8	− 2.0	93	2	43	23	32	5.37	+ 2.32	1.17	0	15	10	13	7	e.	J. M. Mathews.
Hartwell	Hart	838	3					44	22											W. B. McMullan.

TABLE 1.—*Climatological data for September, 1913. District No. 2*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, 0.01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Georgia—Continued.																				
Hawkinsville	Pulaski	235	17	.....	.....	.....	.....	.....	.....	.....	2.10	− 1.06	0.90	0	5	11	5	14	.....	R. H. Wood.
Highland Dam	Muscogee	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.90	.....	0.28	0	15	13	6	11	.....	F. C. Tibbs.
Jesup	Wayne	101	18	74.5	− 1.9	91	2	44	22	33	1.38	− 4.16	0.85	0	4	11	8	11	.....	W. L. Belcher.
Lisbon	Lincoln	326	6	70.4	.....	92	1†	42	22†	35	7.77	.....	1.50	0	10	15	10	5	.....	B. J. Du Bose.
Lost Mountain	Cobb	1,175	13	69.9	− 3.4	92	1	40	22†	35	2.88	− 0.14	1.64	0	6	3	19	8	e.	A. N. Mayes.
Louisville	Jefferson	259	20	72.2	− 3.4	90	2	46	22	32	4.50	+ 0.89	1.23	0	11	14	11	5	.....	J. C. Little.
Lumber City	Telfair	150	4	.....	.....	.....	.....	.....	.....	.....	1.78	.....	1.10	0	8	13	3	14	w.	Walter A. Hilton.
Lumpkin	Stewart	650	18	73.2	− 3.8	91	1†	42	22	30	3.87	+ 0.74	0.78	0	13	15	7	8	ne.	R. T. Humber.
Macon	Bibb	370	32	72.6	− 3.0	91	2	45	22	29	2.78	− 0.14	1.00	0	10	10	9	11	ne.	U. S. Weather Bureau.
Marshallville	Macon	500	20	74.7	− 2.1	95	2†	44	22	33	5.26	+ 2.28	1.60	0	9	8	7	15	w.	E. C. Bryan.
Milledgeville	Baldwin	276	25	72.8	− 2.0	93	1†	45	22	31	3.42	− 0.24	1.15	0	11	17	3	10	se.	Prof. O. M. Cone.
Millen	Jenkins	158	25	73.8	− 2.2	96	1	42	22	38	2.78	− 0.86	0.70	0	13	17	0	13	ne.	M. G. McComb.
Mineral Bluff	Fannin	1,571	....	67.6	.....	90	7	41	22	35	1.82	.....	1.72	0	7	20	4	6	.....	W. T. S. Dickey.
Montezuma	Macon	292	8	.....	.....	.....	.....	.....	.....	.....	2.92	.....	0.79	0	10	13	1	16	ne.	J. C. Collins.
Monticello	Jasper	800	18	71.6	− 3.5	94	1†	42	22	32	5.82	+ 2.67	1.78	0	13	20	6	4	.....	Miss Maude Penn.
Newnan	Coweta	959	24	71.8	− 1.7	93	1†	43	22	33	3.52	+ 0.26	0.95	0	13	14	1	15	e.	Mrs. Ida J. Milner.
Norcross	Gwinnett	1,078	3	.....	.....	.....	.....	.....	.....	.....	3.77	.....	1.12	0	12	14	5	11	.....	W. O. Medlock.
Point Peter	Oglethorpe	600	23	69.0	− 3.5	91	2	42	22†	33	6.69	+ 3.01	1.85	0	9	15	7	8	se.	C. M. Witcher.
Poulan	Worth	365	23	76.4	− 0.1	97	3	45	22	37	3.67	+ 0.26	1.22	0	9	15	13	2	.....	C. T. Merritt.
Putnam	Marion	.....	13	71.9	− 4.5	94	9	43	22	38	4.34	+ 0.51	0.76	0	10	11	8	11	e.	Miss Mildred Collum.
Quitman	Brooks	173	27	75.6	− 2.0	91	3	47	22†	30	3.62	− 0.81	1.21	0	7	17	0	13	ne.	A. B. Jones.
Ramhurst	Murray	900	20	70.4	− 2.2	94	3	37	22	34	3.74	+ 0.52	2.58	0	7	16	9	5	s.	D. E. Humphreys.
Resaca	Gordon	657	19	.....	.....	.....	.....	.....	.....	.....	3.99	+ 1.27	2.34	0	7	26	1	3	se.	D. A. Norton.
Rome	Floyd	576	54	71.8	− 1.3	96	2†	40	22	38	3.29	+ 0.76	1.62	0	7	16	3	11	e.	W. M. Towers.
St. George	Charlton	50	6	75.2	.....	92	2†	50	22	30	5.08	.....	1.77	0	9	21	5	4	se.	A. N. Lund.
Savannah	Chatham	65	62	74.6	− 1.8	90	2	52	22	21	4.63	− 0.78	1.64	0	11	8	11	11	ne.	U. S. Weather Bureau.
Statesboro	Bulloch	253	13	74.8	− 2.1	94	4	47	22	32	2.21	− 0.91	1.15	0	9	15	13	2	ne.	W. C. Cromley.
Talbotton	Talbot	750	19	73.2	− 1.7	93	1†	42	22	34	5.60	+ 2.52	2.00	0	14	15	1	14	e.	Dr. E. L. Bardwell.
Tallapoosa	Haralson	1,150	14	69.2	− 3.5	90	9	39	22	34	3.74	+ 0.76	1.94	0	9	9	9	12	se.	C. C. Sigman.
Thomasville	Thomas	273	31	75.6	− 2.0	92	3	46	22	31	2.30	− 2.63	0.72	0	11	9	12	9	e.	U. S. Weather Bureau.
Toccoa	Stephens	1,050	27	68.8	− 2.4	92	9	40	22	33	4.73	+ 0.29	1.56	0	9	14	5	11	ne.	Miss Marian Craig.
Valdosta	Lowndes	220	8	76.4	.....	95	5	45	22†	36	4.10	.....	1.75	0	7	18	0	12	w.	Miss Annie Twitty.
Washington	Wilkes	630	22	70.6	− 3.5	90	1†	43	22	28	5.95	+ 2.36	1.95	0	9	14	8	8	ne.	Miss Ella B. Smith.
Waycross	Ware	131	24	76.2	− 1.1	92	2†	46	23	33	2.94	− 1.36	0.79	0	9	12	10	8	se.	Dr. J. F. Wilson.
Waynesboro	Burke	86	21	.....	.....	93	1	.....	.....	.....	5.73	+ 2.67	1.10	0	14	.....	.....	.....	e.	Mrs. H. W. Blount.
West Point	Troup	620	23	71.2	− 4.1	92	3	43	22	30	3.24	+ 0.20	0.71	0	12	10	1	19	ne.	E. N. Dunn.
Woodbury	Meriwether	641	12	.....	.....	.....	.....	.....	.....	.....	5.31	+ 2.16	1.15	0	11	14	5	11	e.	E. T. Riggins.
Florida.																				
Apalachicola	Franklin	24	8	76.9	.....	94	3	50	22	26	22.87	.....	4.24	0	16	14	11	5	se.	A. F. Whiteside.
Arcadia	De Soto	61	12	80.0	− 0.6	92	15†	61	22	23	3.16	− 3.67	1.35	0	15	9	20	1	e.	C. S. Bushnell.
Archer	Alachua	92	28	77.0	− 2.1	89	4	58	22	22	4.14	− 2.03	1.32	0	12	.....	.....	.....	.....	R. B. Hodgson.
Avon Park	De Soto	150	14	79.2	− 0.9	93	30	61	22	22	4.34	− 1.67	1.31	0	15	10	17	3	e.	William King.
Bartow	Polk	115	25	77.7	− 2.1	92	17†	55	22	29	4.43	− 3.95	0.92	0	11	7	10	13	se.	William Hood.
Bassenger	Osceola	.....	.....	81.0	.....	92	3	69	12	21	3.62	.....	1.62	0	8	11	14	5	.....	L. M. Kline.
Bradentown	Manatee	10	29	79.2	− 0.8	93	1†	60	22	27	4.67	− 2.77	0.86	0	12	18	10	2	se.	F. H. Braymer.
Bristol	Liberty	.....	.....	.....	.....	.....	.....	.....	.....	.....	4.59	.....	0.70	0	10	.....	.....	.....	e.	J. N. Harrell.
Brooksville	Hernando	126	20	79.2	− 0.2	98	28†	54	22	28	4.54	− 2.27	1.60	0	8	16	6	8	ne.	C. C. Peck.
Carrabelle	Franklin	10	14	75.7	− 2.4	94	3	46	22	29	17.42	+10.74	3.50	0	12	.....	.....	.....	.....	J. J. Blomquist.
Cedar Keys	Levy	10	24	75.9	− 3.5	89	2†	46	22	30	7.30	+ 2.13	1.75	0	10	26	0	4	se.	S. T. White.
Clermont	Lake	105	19	80.2	− 0.3	97	18	62	22†	25	4.20	− 2.76	1.00	0	7	11	19	0	e.	S. S. Fesler.
Crescent City	Putnam	.....	15	79.1	0.0	93	2†	55	22	29	2.38	− 4.85	0.90	0	10	14	12	4	.....	Walter Cliff.
De Funiak Springs	Walton	193	14	75.0[a]	− 2.4	93[a]	2	47[a]	22†	33[b]	7.18	+ 1.17	3.06	0	13	9	17	4	se.	W. O. H. Shepard.
De Land	Volusia	27	16	77.6	− 0.9	95	4†	52	23	32	5.12	.....	3.50	0	11	1	28	1	ne.	Rev. W. J. Harkness.
Eustis	Lake	56	22	79.8	+ 0.2	98	16	53	23	34	2.89	− 3.89	1.31	0	9	24	3	3	ne.	C. T. Smith.
Federal Point	Putnam	10	21	77.6	− 0.5	95	3	53	22	30	3.46	− 4.89	1.19	0	11	11	18	1	ne.	E. S. Hubbard.
Fellsmere	St. Lucie	.....	.....	.....	.....	.....	.....	.....	.....	.....	4.28	.....	0.77	0	14	11	8	11	e.	W. A. James.
Fenholloway	Taylor	75	6	76.0	.....	94	3	51	22†	37	10.66	.....	3.20	0	9	3	21	6	sw.	J. Wigglesworth.
Fernandina	Nassau	10	20	78.4	+ 0.4	92	30	56	21	29	3.63	− 5.43	2.10	0	6	1	8	21	ne.	T. C. Borden.
Fort Lauderdale	Dade	10	1	80.4	.....	90	1†	68	22	20	6.53	.....	1.21	0	16	5	22	3	.....	W. M. Heine.
Fort Meade	Polk	125	23	78.2	− 1.3	96	3	55	22	35	4.62	− 4.07	1.08	0	12	20	6	4	ne.	G. L. Brodrick.
Fort Myers	Lee	12	40	79.0	− 0.9	90	15	66	22†	18	8.30	+ 0.52	2.14	0	15	25	5	0	se.	W. F. Gwynne.
Fort Pierce	St. Lucie	10	12	.....	.....	.....	.....	66	22	.....	6.22	− 1.20	1.80	0	11	16	10	4	e.	T. C. Nicholson.
Gainesville	Alachua	176	17	77.2	− 1.4	92	5	50	22	29	6.50	+ 0.97	1.58	0	13	8	12	10	ne.	John Schnabel.
Garniers (near)	Walton	22	1	75.1	.....	94	3	41[a]	23	40[a]	15.14	.....	6.45	0	13	15	9	6	se.	U. S. Forest Service.
Grasmere	Orange	175	15	77.6	− 1.6	94	4†	54	22	28	4.96	.....	1.40	0	11	27	3	0	sw.	J. B. Escott.
Griffin	Dade	.....	....	75.8	.....	91	3	64	29	24[a]	6.59	.....	1.18	0	18	0	24	6	e.	T. M. Griffin.
Hilliard	Nassau	69	4	75.5	.....	92	3†	48	22	34	2.90	.....	1.80	0	6	14	16	0	.....	B. A. Tibbets.
Homestead	Dade	12	3	79.1	.....	93	20†	64	6†	23	7.65	.....	2.48	0	11	3	22	5	e.	J. A. Kahl.
Hypoluxo	Palm Beach	9	17	80.8	+ 0.2	94	3	68	12	22	5.36	− 4.02	1.20	0	16	12	13	5	e.	G. A. Angevine.
Inverness	Citrus	43	13	78.0	− 0.8	91	16†	57	22†	24	6.28	+ 0.62	2.15	0	10	0	28	2	se.	W. H. Miller.
Jacksonville	Duval	108	42	77.3	0.0	92	3	55	22	21	3.74	− 4.29	1.13	0	9	10	13	7	ne.	U. S. Weather Bureau.
Jasper	Hamilton	152	12	76.4	− 2.0	93	5†	46	22	32	4.72	+ 0.17	1.62	0	9	8	12	10	e.	Mrs. W. C. Caldwell.
Johnstown	Bradford	125	13	78.0	− 0.6	92	2†	50	22	25	5.39	− 0.13	1.71	0	8	22	6	2	.....	A. M. C. Brasch.
Key West	Monroe	14	42	81.4	− 1.1	89	1	71	5	16	6.22	− 0.57	3.71	0	15	8	13	9	e.	U. S. Weather Bureau.
Kissimmee	Osceola	65	20	78.7[c]	− 1.5	93	3†	58[c]	22	27[a]	6.03	− 1.28	1.48	0	8	2	20	8	e.	J. A. Simpson.
Lake City	Columbia	210	28	77.2	− 1.1	94	4†	51	23	31	2.82	− 2.35	0.70	0	8	11	10	9	ne.	W. B. Knight.
Live Oak	Suwanee	109	13	77.0	.....	94	29	47[a]	23	34[a]	4.20	− 0.44	0.83	0	13	10	9	11	ne.	Rev. J. A. Montgomery.
Lucerne Park	Polk	.....	1	79.2	.....	92	1†	58	22†	25	3.57	.....	0.85	0	12	2	24	4	ne.	L. D. Niles.
Macclenny	Baker	125	16	77.4	− 1.2	95	3	48	22	33	3.62	− 1.20	1.16	0	11	11	16	3	.....	Griffing Bros. Co.
Madison	Madison	200	13	77.0	− 1.8	93	2†	50	21	28	5.02	− 0.54	0.97	0	9	7	12	11	ne.	E. J. Vann.
Malabar	Brevard	24	19	80.6[a]	+ 0.4	93[a]	19	60[a]	23	27[a]	3.48	− 4.88	1.02	0	7	21	8	1	se.	J. F. Farley.
Marianna	Jackson	80	10	75.8[b]	− 2.4	95[b]	1	45	21	35[d]	3.81	− 1.98	0.85	0	10	12	9	9	e.	W. W. Brooks.
Merritts Island	Brevard	20	30	79.2	− 1.0	90	19	61	22	19	9.74	+ 1.97	3.86	0	13	12	16	2	se.	F. Ulrich.
Miami	Dade	47	11	80.3	− 1.2	88	3	70	13	17	6.46	− 3.15	2.62	0	15	0	16	14	e.	U. S. Weather Bureau.
Middleburg	Clay	10	12	76.3[f]	− 1.5	93[f]	4	48[f]	23	33[f]	3.75	− 4.05	0.89	0	11	.....	.....	.....	.....	G. A. Chalker.
Molino	Escambia	49	11	74.5	− 3.3	97	1	45	23	39	13.35	+ 6.43	6.55	0	5	11	9	10	ne.	W. H. Trimmer.
New Smyrna	Volusia	9	28	78.1	− 0.4	92	18	57	22	24	2.40	− 5.75	1.17	0	9	3	26	1	e.	F. J. Nordman.
Orange City	do.	39	19	77.2	− 2.6	98	3	53	23	32	2.68	− 4.04	0.57	0	8	22	5	3	se.	J. D. Graham.
Orlando	Orange	111	20	78.2	− 1.3	91	4†	59	22	22	5.61	− 2.00	3.47	0	11	6	15	9	e.	James Thomson.
Panama City	Washington	.....	.....	.....	.....	91	6	.....	.....	.....	6.46	+ 0.23	2.00	0	8	.....	.....	.....	s.	E. M. Goodson.
Pensacola	Escambia	149	33	75.9	− 2.0	93	3	58	22	18	13.71	+ 8.48	3.99	0	13	8	11	11	e.	U. S. Weather Bureau.
Pinellas Park	Pinellas	20	2	79.8	.....	91	1†	61	22	23	8.74	.....	2.20	0	13	18	8	4	w.	Miss E. Borgman.
Plant City	Hillsboro	121	19	78.6	− 0.8	92	9†	57	22	22	4.74	− 2.45	1.50	0	9	17	13	0	s.	E. B. Trask.
Ritta	Palm Beach	.....	....	79.2	.....	92	19†	67	13	21	5.46	.....	2.05	0	18	15	12	3	ne.	M. Toda.
Rockwell	Marion	10	11	78.2[d]	− 2.4	94[d]	1	56[d]	22†	28[d]	3.69	− 1.64	1.40	0	7	.....	.....	.....	ne.	Dunellon Phos. Co.

TABLE 1.—*Climatological data for September, 1913. District No. 2*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Sky.				Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.	Prevailing wind direction.	
***Florida*—Continued.**																			
St. Augustine	St. Johns	10	61	78.8	+ 0.4	95	30	53	22	29	2.10	− 4.62	0.98	0	5	28	1	1	e.	E. F. Joyce.
St. Cloud	Osceola			78.2	.....	92	1†	56	22	26	4.81	.....	2.00	0	11	14	9	7	e.	J. T. Bearss.
St. Leo	Pasco	140	16	78.1	− 1.6	93	15	56	22	23	4.74	− 1.77	1.15	0	13	....	....	....	e.	Gerard Schneider.
Sand Key	Monroe		1	79.9	.....	86	20	72	4	10	4.41	.....	1.93	0	18	11	13	6	e.	U. S. Weather Bureau.
Sanford	Orange	25	5	78.0	.....	92	18	60	22	24	1.78	.....	0.34	0	12	19	5	6	ne.	H. C. Du Bose.
Satsuma Heights	Putnam	98	5	77.5	.....	93	1	54	22†	27	2.04	.....	0.67	0	8	14	8	8	ne.	Satsuma Co.
Switzerland	St. Johns	10	20	76.6[a]	− 1.2	92[a]	4†	53[b]	23	29[b]	6.53	− 1.73	1.96	0	11	....	....	....	.....	Mrs. W. C. Steele.
Tallahassee	Leon	192	26	75.6	− 1.0	92	2†	49	22	26	5.20	+ 0.18	0.95	0	13	15	0	15	e.	W. H. Markham.
Tampa	Hillsboro	79	23	79.2	+ 0.9	91	9	59	22	20	2.44	− 4.97	1.04	0	13	12	11	7	ne.	U. S. Weather Bureau.
Tarpon Springs	Pinellas	20	28	79.6	+ 0.2	95	15	56	22	28	10.76	+ 4.18	2.28	0	15	17	12	1	e.	A. P. Albaugh.
Titusville	Brevard	16	17	79.2	− 0.1	93	19	58	22	22	3.73	− 4.57	2.42	0	10	13	14	3	e.	F. M. Taylor.
Wausau	Washington	250	13	73.8	− 4.1	94	1†	45	23†	42	3.46	− 3.09	1.40	0	7	2	21	7	s.	Curtis Jones.
Zona	Dade			77.4	.....	93	1	64	22†	26	9.55	.....	4.35	0	19	....	....	....	e.	H.C. Davis.
Alabama.																			
Alaga	Houston	105	8	....	.....	....	....	....	....	....	1.07	.....	0.45	0	5	....	....	....	.....	James L. Willis.
Andalusia	Covington	488	....	77.6	.....	95	2†	55	21	25	9.10	.....	4.60	0	7	....	....	....	.....	T. E. Baisden.
Anniston	Calhoun	728	22	71.8	+ 0.5	95	3	39	22	34	4.95	+ 1.42	2.79	0	12	8	12	10	se.	U. S. Weather Bureau.
Ashville	St. Clair	685	20	71.2	− 1.9	98	3	39	22	41	7.22	+ 3.54	4.30	0	10	14	10	6	.....	A. L. Cather.
Auburn	Lee	732	31	73.4	− 1.4	93	9	44	22	31	3.86	+ 0.81	1.37	0	13	8	9	13	e.	Dr. James T. Anderson.
Benton	Lowndes	149	12	....	.....	....	....	....	....	....	5.74	+ 2.57	2.58	0	7	....	....	....	.....	S. T. Pruitt.
Bermuda	Conecuh		26	73.9	− 1.8	97	3	42	22	34	10.27	+ 6.41	3.89	0	14	8	12	10	se.	M. J. Morris.
Birmingham	Jefferson	701	25	72.8	− 1.2	97	3	45	22	28	7.41	+ 3.91	2.96	0	13	9	11	10	se.	U. S. Weather Bureau.
Calera	Shelby	500	12	....	.....	....	....	....	....	....	7.00	+ 3.65	1.85	0	12	....	....	....	.....	L. G. Privett.
Camp Hill	Tallapoosa	738	12	71.6	− 4.0	92	9	42	22	32	5.51	+ 1.28	2.00	0	7	5	18	7	s.	Dr. Lyman Ward.
Citronelle	Mobile	331	25	75.5	− 2.0	96	3	46	22	31	10.04	+ 5.41	3.45	0	17	8	10	12	se.	Rev. W. H. Rowe.
Clanton	Chilton	590	20	72.5	− 2.5	97	3	43	22	36	4.90	+ 2.57	1.05	0	14	....	....	....	.....	Joseph B. Downs.
Cochrane	Pickens	100	3	....	.....	....	....	....	....	....	8.20	.....	3.08	0	10	....	....	....	.....	T. H. G. Cook.
Cordova	Walker	334	22	73.8	+ 0.3	100	3	40	21	37	5.30	+ 2.38	1.65	0	7	13	1	16	se.	Scott Maxwell.
Cullman	Cullman	802	5	70.5	.....	98	2	36	22	34	5.52	.....	2.91	0	9	14	8	8	se.	Eugene A. Grayot.
Dadeville	Tallapoosa	760	8	....	.....	....	....	....	....	....	5.62	.....	1.72	0	10	....	....	....	.....	Dr. W. B. Fulton.
Daphne	Baldwin		22	75.4[a]	− 2.3	95	2	45	22	33[a]	23.46	+17.29	7.10	0	10	11	8	11	e.	John H. Young.
Demopolis	Marengo		21	....	.....	....	....	....	....	....	6.64	+ 3.67	1.20	0	13	....	....	....	.....	George E. Pegram.
Dothan	Houston		1	74.0	.....	91	2	49	22	22	3.28	.....	0.84	0	10	12	3	15	se.	L. G. Biggers.
Eufaula	Barbour	200	29	70.2	− 5.8	89	2	43	22	30	4.74	+ 1.52	1.04	0	14	....	....	....	.....	Dr. J. B. Whitlock.
Evergreen	Conecuh	285	29	76.1	− 0.2	101	3	43	22	40	6.99	+ 3.48	1.50	0	12	....	....	....	.....	George W. Salter.
Fort Deposit	Lowndes	520	29	74.8	− 1.2	91	3	40	22	32	6.07	+ 3.55	1.70	0	11	....	....	....	.....	J. F. Hattemer.
Gadsden	Etowah	621	29	73.0	− 1.0	99	3	41	22	40	7.25	+ 3.84	4.62	0	12	....	....	....	.....	D. P. Goodhue.
Goat Rock	Lee			....	.....	....	....	....	....	....	2.67	.....	0.58	0	15	....	....	....	.....	B. B. Hamby.
Goodwater	Coosa	826	18	70.4	− 5.5	94	2†	40	22	35	6.26	+ 3.68	3.31	0	17	....	....	....	.....	Miss Daisy Buice.
Greensboro	Hale	220	34	73.5	− 1.8	99	3	48	22	27	7.53	+ 4.61	1.05	0	13	9	2	19	e.	W. E. W. Yerby.
Greenville	Butler	444	12	....	.....	....	....	....	....	....	8.61	+ 5.20	3.42	0	8	....	....	....	.....	E. M. Lewis.
Hamilton	Marion		17	72.4	− 3.1	102	2	36	22	44[c]	5.18	+ 2.57	1.18	0	9	7	13	10	nw.	Prof. H. O. Sargent.
Healing Springs	Washington	362	1	....	.....	....	....	....	....	....	9.16	.....	2.30	0	10	....	....	....	.....	James E. Lipscomb.
Highland Home	Crenshaw		21	74.7	− 1.6	94	3	45	22	32	8.37	+ 6.00	3.68	0	14	11	10	9	e.	Prof. Samuel Jordan.
Livingston	Sumter	160	29	73.1	− 2.7	97	3	45	22	29	11.45	+ 9.06	1.55	0	13	14	0	16	e.	Robert L. King.
Lock No. 4	Talladega	510	16	72.0	− 2.3	94	2†	42	22	34	6.69	+ 3.91	2.70	0	9	....	....	....	.....	U. S. Engineers.
Maple Grove	Cherokee		20	72.4	− 0.8	100	3	40	21	37	6.38	+ 3.08	2.70	0	10	9	14	7	se.	Mrs. A. L. Awbrey.
Mentone	De Kalb	1,595	6	....	.....	....	....	....	....	....	5.04	.....	3.10	0	5	....	....	....	.....	E. Mason.
Milstead	Macon		10	....	.....	....	....	....	....	....	5.70	.....	1.80	0	10	....	....	....	.....	W. U. Wall.
Mobile	Mobile	84	41	76.6	+ 0.1	94	3	53	22	24	15.50	+10.48	7.40	0	13	8	14	8	e.	U. S. Weather Bureau.
Montgomery	Montgomery	240	41	73.6	− 2.2	96	3	47	22	28	7.97	+ 5.09	3.11	0	15	9	9	12	e.	Do.
Newbern	Hale		21	74.2	− 2.7	99	1	44	22	36	9.15	+ 6.60	1.35	0	16	6	11	13	e.	Dr. J. Huggins.
Oneonta	Blount	857	19	72.0	− 0.7	96	3	38	22	36	7.35	+ 4.23	4.45	0	14	8	2	20	e.	Aquilla J. Ketchum.
Opelika	Lee	917	34	72.0	− 2.6	90	3†	45	22	28	5.65	+ 2.97	1.46	0	11	....	....	....	.....	A. H. Read, jr.
Ozark	Dale	400	11	74.4	.....	93	1	45	22	27	2.80	.....	1.30	0	5	....	....	....	.....	James A. Scott.
Prattville	Autauga	281	13	72.5	− 3.2	97	3	42	22	34	5.65	.....	1.74	0	10	11	9	10	e.	Joseph B. Bell.
Pushmataha	Choctaw		22	73.5	− 2.4	95	3	45	22	31	15.18	+12.24	2.47	0	17	4	3	23	e.	W. N. Horn.
Robertsdale	Baldwin	148	....	....	.....	....	....	....	....	....	13.54	.....	3.84	0	16	....	....	....	.....	Carl Boseck.
Selma	Dallas	147	33	73.6	− 2.9	98	3	45	22	35	7.24	+ 5.10	1.87	0	12	....	....	....	.....	Charles F. Brislin.
Spring Hill	Mobile	312	9	74.6	.....	97	3	48	22	26[d]	17.79	.....	6.75	0	11	10	7	13	s.	Spring Hill College.
Talladega	Talladega	554	23	72.0	− 2.5	95	3	40	22	35	8.30	+ 5.64	4.10	0	7	11	3	16	se.	W. E. Henkel.
Tallassee	Elmore		22	....	.....	....	....	....	....	....	4.00	+ 1.63	0.98	0	14	....	....	....	.....	P. A. Noble.
Thomasville	Clarke	385	22	72.6	− 3.5	98	3	45	22†	32	8.02	+ 5.25	1.37	0	11	....	....	....	.....	Miss H. T. Forster.
Troy	Pike	581	5	75.1	.....	98	3	44	22	32	5.78	.....	1.67	0	13	4	21	5	e.	Frank L. Zimmermann.
Tuscaloosa	Tuscaloosa	230	32	74.5	− 1.0	102	3	44	22	38	7.74	+ 4.96	4.08	0	13	....	....	....	.....	W. S. Wyman, jr.
Tuskegee	Macon		13	73.8	− 4.2	96	3	45	22	33	4.78	+ 2.78	2.00	0	9	3	17	10	se.	Prof. George W. Carver.
Union Springs	Bullock	216	26	72.8	− 3.0	92	1†	44	22	28	4.08	+ 0.85	0.86	0	12	....	....	....	.....	P. L. Cowan.
Uniontown	Perry	273	27	73.6	− 2.9	98	3	46	22	31	6.55	+ 3.88	1.30	0	10	7	5	18	e.	L. H. Moore.
Valley Head	De Kalb	1,031	28	69.6	− 1.8	96	3	35	22	42	4.05	+ 0.90	2.00	0	8	12	11	7	.....	M. T. Floyd, M. D.
Wetumpka	Elmore	205	21	74.2	− 3.1	98	3	44	22†	39	5.42	+ 3.01	1.39	0	9	....	....	....	.....	Mrs. Emmie Callaway.
Mississippi.																			
Aberdeen	Monroe	210	25	74.0	+ 0.6	102	3	42	22†	38	4.75	+ 1.99	0.87	0	9	11	8	11	s.	L. D. Godfrey, jr.
Agricultural College	Oktibbeha	424	23	74.5	− 0.5	103	3	45	22	44	7.93	+ 5.28	1.95	0	16	6	14	10	se.	J. R. Ricks.
Bay St. Louis	Hancock	28	20	77.3	− 1.6	97	3	48	22	28	17.96	+12.62	5.00	0	19	7	9	14	e.	Brother Matthew.
Bay Springs	Jasper	406	....	....	.....	....	....	45	22	....	9.03	.....	2.05	0	11	12	8	10	.....	O. P. Foley.
Biloxi	Harrison	24	22	77.2	− 1.1	97	3	51	22	26	10.53	+ 3.96	2.40	0	15	9	6	15	se.	Miss M. Josie Pope.
Booneville	Prentiss	504	19	72.7[e]	− 1.2	101	3	41	22	31	8.94	+ 6.41	3.94	0	12	....	....	....	.....	Dr. D. T. Price.
Brookhaven	Lincoln	500	25	73.6	− 2.8	98	2†	43	22	37	8.47	+ 4.86	2.78	0	13	14	4	12	e.	W. J. Bee.
Collins	Covington			74.6	.....	98	3	44	22	36	8.61	.....	2.32	0	16	....	....	....	e.	G. P. Sledge.
Columbia	Marion	110	9	....	.....	....	....	....	....	....	5.40	.....	0.90	0	14	10	7	13	se.	N. R. Drummond.
Columbus	Lowndes	191	25	74.8	− 1.1	102	3	44	22	36	8.43	+ 5.26	2.28	0	10	10	4	16	ne.	J. B. Love.
Crystal Springs	Copiah	468	21	74.5	− 1.8	96	1	44	22	35	11.92	+ 8.89	5.00	0	16	10	13	7	.....	D. H. Miller.
Edinburg	Leake		5	73.2	.....	97	3	41	22	36	8.37	.....	2.06	0	12	10	9	11	s.	J. Y. Blocker.
Enterprise	Clarke	248	8	....	.....	....	....	....	....	....	8.23	.....	2.30	0	10	....	....	....	.....	J. B. Thompson.
Fulton	Itawamba		4	....	.....	....	....	....	....	....	3.82	.....	1.47	0	14	6	20	4	s.	A. D. Graham.
Hattiesburg	Forrest	189	20	76.0	− 1.5	98	3	44	22	33	5.15	+ 0.86	1.24	0	8	9	3	18	s.	T. C. Spence.
Hazlehurst	Copiah	460	23	73.6	− 3.1	97	3	44	23	37	8.27	+ 5.64	2.40	0	15	8	7	15	e.	J. D. Granberry.
Hickory	Newton	326	3	....	.....	....	....	....	....	....	9.44	.....	2.91	0	12	12	4	14	s.	T. N. McMullen.
Jackson	Hinds	280	26	75.7	− 0.4	99	3	44	22	37	10.24	+ 7.34	3.80	0	18	11	6	13	se.	A. S. Nail.
Lake	Scott	446	25	73.0	− 1.3	96	3†	42	22	33	8.36	+ 5.64	2.30	0	10	9	2	19	ne.	Mrs. Eddie McNeel.

TABLE 1.—*Climatological data for September, 1913. District No. 2*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, 0.01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Mississippi—Contd.																				
Laurel	Jones	241	9	74.2	.....	100	3	44	22	36	9.42	.....	1.68	0	15	13	5	12	se.	Thomas W. Flynt.
Leakesville	Greene	.....	19	75.2	− 2.7	96	2	46	22†	36	9.13	+ 4.34	2.10	0	9	.....	.....	.....	.....	Dr. Sam Pool.
Louisville	Winston	561	24	74.6	− 0.4	100	3	44	22	34	8.13	+ 5.43	4.18	0	14	.....	.....	.....	.....	B. T. Webster.
McNeill	Pearl River	230	10	75.2	− 2.3	95	3	47	22	30	8.87	+ 2.71	1.93	0	15	7	10	13	se.	Prof. E. B. Ferris.
Macon	Noxubee	185	25	74.0	− 1.1	102	3	43	22	34	6.47	+ 3.27	1.57	0	11	11	5	14	e.	Finis E. Carleton.
Magnolia	Pike	415	17	74.7	− 2.1	97	3	45	22	30	11.14	+ 7.12	2.81	0	18	5	12	13	se.	Miss Ruby V. Roberts.
Meridian	Lauderdale	375	23	72.9	+ 0.2	96	3	46	22	28	8.52	+ 5.05	2.68	0	16	6	4	20	e.	U. S. Weather Bureau.
Merrill	George	76	8	.....	.....	.....	.....	.....	.....	.....	8.91	.....	1.84	0	12	12	4	14	n.	James E. Walters.
Monticello	Lawrence	209	6	74.5	.....	96	3	44	22	36	9.12	.....	2.52	0	17	13	5	12	se.	Dr. G. A. Teunisson.
Okolona	Chickasaw	311	25	72.8	− 1.7	99	3	44	22	34	6.87	+ 3.11	2.10	0	10	10	9	11	s.	E. J. Henson.
Pascagoula	Jackson	15	4	76.8	.....	95	3	50	22	23	11.03	.....	2.84	0	10	.....	.....	.....	.....	McVea Young.
Pearlington	Hancock	10	25	75.8	− 1.7	94	3	48	22	29	10.43	+ 4.77	3.14	0	13	8	10	12	e.	Miss Annette Koch.
Portersville	Kemper	.....	8	73.5	.....	102	3	43	22	36	7.17	.....	1.38	0	13	5	13	12	se.	I. S. Rea.
Shubuta	Clarke	197	8	.....	.....	.....	.....	.....	.....	.....	10.94	.....	2.00	0	11	.....	.....	.....	.....	George A. Floyd.
Tupelo	Lee	278	14	73.9	.....	100	3	40	22	34	6.70	+ 4.20	4.75	0	13	11	9	10	s.	W. S. Vincent.
Waynesboro	Wayne	191	26	73.7	− 1.8	97	3	43	22	37	10.67	+ 7.69	2.38	0	14	9	5	16	e.	R. S. Burke.
Woodland	Chickasaw	.....	4	.....	.....	.....	.....	.....	.....	.....	8.35	.....	1.50	0	10	.....	.....	.....	.....	J. L. Ricks.

[a], [b], [c], etc., indicate respectively 1, 2, 3, etc., days missing from the record.
** Temperature extremes are from observed readings of the dry bulb; means are computed from observed readings.
† Also on other dates.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 2.—*Daily precipitation for September, 1913. District No. 2, South Atlantic and East Gulf States.*

Stations.	Watershed.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Virginia.																																
Arvonia	James		.30	.82										.17				.36	.05	.05		.83						T.		T.		2.
Ashland	do			1.20									.90					.07	.08	.13		1.26										3.64
Buchanan ‖	do				1.05												.04		.29	.19	.14	1.39	.31								.09	3.50
Callaville	Chowan			1.67														.04	.11		.18	.49							T.			2.40
Cape Henry	Coast		T.	.39	T.			T.											.08	1.22		.58										2.27
Catawba	Roanoke			.10	.87	.24			.15								.05	.30	.13		.20	1.30								.15		3.49
Charlottesville	James			.15										.58				.22	.10	.05	.49	.96										2.55
Clarksville ‖	Roanoke			.35	2.40		.75													.05	.03		1.10						.10			4.78
Columbia	James		.08	1.07									1.17					.78	.17			.45								T.	.30	4.02
Danville ‖	Roanoke			T.	3.59	.06													.14	T.			.79						.05		.32	4.95
Diamond Springs	Coast			.06	1.37	.16			.01										.20	.50	.20	.96	.21									3.67
Dry Bridge	James			1.10										.08					.11	.14		1.27										2.70
Hampton	Coast			1.15															.10			.35	1.70									3.30
Hot Springs	James				.20			.24										.02	.08	.62					1.85					.20		3.21
Ivor	Chowan			2.25														.10	.25		.50		1.28									4.38
Lassiter	James				.90								.05						.05	.10		1.50										2.60
Lexington	do		.03	.10	.15									.21		T.		.38	.11		.46	.76								.06	.05	2.31
Lynchburg	do				.29	.02								.50				.24	.19	.01	.51	.63									.65	2.44
Newport News	Coast	.03	.04	.84	.72				T.									.03	.14	.20	.04	1.44	.05									3.53
Norfolk	do		.05	2.11	.03	.01	.70	.01	.03									.04	.08	1.63		.54										5.23
Randolph ‖	Roanoke			.05	2.41																			1.20								3.66
Richmond	James		.05	1.32					T.				.01	.01				.23	.02	.33	T.	1.22						T.		T.	.01	3.20
Roanoke	Roanoke			.25	.41											T.	T.	.38	.13	.92	1.69									.05		3.83
Rocky Mount	do			.63	1.58													1.13	.09		.46	.74									.10	4.73
Ruckersville	James			.10	.08									.50				.30	.08	.09	.27	1.08										2.50
Runnymede (near)	Chowan		.04	2.75														.12	.13	1.26		1.04									T.	5.34
Stuart	Roanoke			.07	1.57				1.08				.06			.70	T.	.95	1.05	1.03	.90	1.23								2.03	.40	11.07
West Point	Coast		.72	1.50										.02					.21	.05	.66	.65	.26			T.						4.07
Williamsburg	James		.42	1.55															.32	.10	.20	1.35	.40									4.34
North Carolina.																																
Albemarle	Pedee			.45	.45	.21										.06	.19	.25	.96	.33	.18	.13								.16	.10	3.47
Altapass	Santee	.03	.38	T.	.89	.45	.04		T.						T.	.66	.55	.20	.15	T.	1.65	T.								.57	.07	5.64
Beaufort	Coast	.11	1.03	3.55						.65								.04		.34	.56	.57	.11								.65	7.61
Brewers	Pedee		.02	.20	.23	.20			.08							.15	.10	.29	.19	.55	.87	1.93							T.	.77	.03	5.61
Caroleen	Santee			T.	.90				T.						1.80	.77	.05	.26	.21	.26		.50								.30	.18	5.23
Chalybeate Springs	Cape Fear		T.	1.34	.35	.01										.07		.03	1.40	.90		.76								T.		4.86
Chapel Hill	do		.15	2.10	.35	.30			T.							T.		T.	.44	T.	T.	1.18								T.	.06	4.58
Charlotte	Santee			.35	.18	T.			T.							.20	.13	.06	.76	.14	.17	.13								.31	.02	2.45
Chimney Rock	do		.30		1.50		.20		.20					.20	.50	1.00	.30	.15	.40	.20	.15	.50								.48	.10	6.18
Durham (near)	Neuse		.08	4.07	.76	.63													.28		.53	.98										7.33
Eagletown	Chowan	T.	.58	2.80	T.	T.			.70	.37								.13	.27	1.36		.59						T.		T.		6.80
Edenton	Coast	.30	.35	3.55										.80						.60	1.10	.50										7.20
Elizabeth City	Pasquotank			2.00	1.90	.30				1.50								T.	.70	2.00		.70										9.10
Elizabethtown ‖	Cape Fear		.25	.41																2.08	1.58		1.08							.18	5.58
Elkin ‖	Pedee				1.50					.10							.23	.23	.07			1.48									.32	3.93
Enfield (near) ‖	Tar	.07		1.83	1.15					.04									.11	.41	.21		1.21								.20	.05	5.28
Fayetteville ‖	Cape Fear	.11		.14	.98	.32										.08		.18		1.36	.60	T.	1.58								.12	5.47
Globe (near)	Santee		.71		1.10	.77										.62	.68	.24	.34		.52	1.27								.57	.14	6.96
Goldsboro ‖	Neuse		.10	1.03	1.54	T.	.26			.49						.03	T.		.05	.95	.99	.06	.40								.49	6.39
Gorge (near)	Santee	.11	.74	.04	1.84	.58	.02		1.38						T.	.52	.50	.24	.11	.04	4.30	1.27							T.	.58	.14	12.41
Graham ‖	Cape Fear			.02	3.30		.07			.03							.01	.01	.17	.34		.01	.67								.08	4.71
Greensboro ‖	do				1.62	.08				.08							.02	.26	.82	.31	.09		.68								.19	4.15
Greenville ‖	Tar		.14	2.75	2.00	.02				.15						.11	.01		.54		.50	T.	1.61								.48	8.31
Hatteras	Coast	.04	2.69	1.44	.03	.60				.10	T.						.10	.01	.97	.23		.74	.11								.22	7.28
Henderson	Tar and Roanoke.		.16	4.26	.05				.14									1.02	.12	.08		.81							.07	.05		6.76
Hickory	Santee			.12	1.27	.34			.04	T.						.39	.07	.40	.10	.68	.04	1.41								.45	.09	5.40
Kings Mountain	do				1.90											.40	.15	.05	.62	.08	.27	.15								.27	.13	4.02
Kinston	Neuse	.03	.71	2.75	.74					.17								22	1.96	.70	.05	.45									.50	8.28
Lincolnton	Santee				1.05	1.41									.58	.62	.28		.50	.31	.46	.12								.12		5.45
Louisburg ‖	Tar		.15	.61	4.40					.03										.35	.14		1.22								T.	6.90
Lumberton ‖	Lumber	T.	1.13	.05	.21											.08		.39	T.	1.42	.84	.01	1.61								.05	5.79
Manteo	Coast		1.26	2.22	.40														2.56	.97		1.06	.46									8.93
Marion	Santee		.08	.03	1.25	.34									.32	.57	.51	.39	.11	.04	.54	.92							T.	.64	.15	5.89
Moncure ‖	Cape Fear			.25	.91	.32	.54											.07		.79	.25	.02	.80								.16	4.11
Monroe	Pedee			.31	.27											.33	.22	.30	3.21	.45		.35								.20	.10	5.74
Morganton	Santee		.07	T.	1.22	.49			.62	T.					.03	.35	.27	.31	.08	.50	.22	.64	T.								.32	.14	5.26
Mount Airy	Pedee			T.	.89				.31							.15	.05	.74	.14	.05	.03	.96								.55		3.87
Mount Holly ‖	Santee				.86	1.56										.18	.33	.90	.20	.92	.06	.61	.10								.51	6.23
Nashville ‖	Tar		.13	1.33	3.75	.03	.03		T.							T.	T.			.60	.15		1.55							T.		7.57
Neuse ‖	Neuse			.80	3.40		.10													.51	.33		.60								.09	5.83
Newbern ‖	do		.31	4.35	.09		T.			T.	.12							.06	.05	.72	1.47	1.05									.23	8.45
North Wilkesboro (near).	Pedee				2.64	1.14												.51		.57		1.54								.40		6.80
Parkersburg	Cape Fear		T.	.95		T.									T.	T.	T.		2.15	.80	T.	1.25								T.		5.15
Pinehurst	Lumber		.03	.42	.13	1.34										.05	.27	.27	.60	.65		.60									.21	4.57
Pittsboro	Cape Fear				2.40	.10											.10	.05	.10	.65	.70									.05	.05	4.20
Raleigh	Neuse	.36	T.	2.79	T.	1.50										.01		T.	.53	.19		.59									.06		6.03
Ramseur	Cape Fear			.61	.37	.17												1.44	.37	.17	.49	.42									.06	.10	4.20
Randleman ‖	do				2.50	.71											.10	.30	.52	.37		.18	.45									.20	5.33
Reidsville ‖	do				2.60	.22	.85			.64								.40	.28	.24		.05	.46						.20		.03	5.97
Rock House	Savannah	.60	.06		1.15	.87	.05		1.05						.19	.80	1.66	.41	.10	.04	1.00	.26								1.64		9.79
Rockingham	Pedee			.37		1.80									.18		.48	.05	.90	.60	.05	.35								.15		4.93
Rocky Mount ‖	Tar			2.50	.30															.60	.55		1.40									5.35
Rougemont ‖	Pedee			.50	3.70	.30				.47										.25	.17		1.50									6.89
Salisbury ‖	do				2.40												.40	.50	.30	.35	.57										.20	4.72
Saxon	Roanoke			2.30	T.											T.		.78		.49		.35								.23	.04	4.19
Scotland Neck	Tar	.20	.25	2.05						.83								.43	.39	.50		.65						T.				5.30
Settle	Pedee			.98	1.45				.20							.22	.04	.23	.14	.20	T.	.80								.33	.03	4.62
Sloan	Cape Fear		.53	.94			.27			T.								.18	.88	1.77	.25	.45								.15	.58	6.00
Smithfield ‖	Neuse			.55	1.30		.60									.14	T.			1.22	.31		.73								.30	5.15
Southport	Cape Fear	.07	.07	.30	.16	.10				.07					T.		2.46		.15	.65	.35	1.27									T.	5.65
Statesville	Pedee			.31	1.72	.27			.36							.34	T.	.20	.10	.16		.28								.08	.07	3.89
Tarboro ‖	Tar		.10	2.78	1.50					.05						T.	.01		.30	.78	1.45	.05	.64								.11	7.77
Tryon (near)	Santee				1.64		.05								.54	.10	.50	.40	.05	1.05	.15	.10								.50	.21	5.29
Weldon ‖	Roanoke	T.		1.59	1.09	.01	T.			T.						T.			.72	.57	.07	T.	.67									4.72
Willard	Cape Fear	T.	.34	.95		.51											T.	.92		1.82	.91									1.05	.46	6.96
Wilmington	do	.17	.09	.94						.11					T.	T.	.42	.59	.55	.21		.45								T.	.01	3.54
Winston-Salem ‖	Pedee				2.56					.48								.49	.04	.34		.40									.39	4.70

TABLE 2.—*Daily precipitation for September, 1913. District No. 2*—Continued.

Stations.	Watershed.	Day of month. 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	Total.
South Carolina.																																
Aiken	Edisto					1.10			.35		.60					.20	.30	.10	.90	1.10	.10										1.20	5.00
Allendale ‖	Savannah	.30					.30		.35		.60					.20	.05	.30			.05	.30	.30								1.30	4.00
Anderson	do				.86	.10										1.08	.36		1.32	.13	.83	.35							.77	.40	6.20
Batesburg ‖	Edisto				.18	.37	.74		T.		.63				.15	.18	.29	.36		1.57	2.10	T.	T.								.85	6.82
Beaufort	Coast	.20				4.00		.21		.24						1.01		2.65				14									.42	8.87
Blackville ‖	Edisto	.12			.02		.93	.04	.19							.10	.02	.75	.03	.40	.52		.10							.05	.56	3.83
Blairs ‖	Broad				.50	.05										.25		.30	1.20	1.50			.25							.15	4.20
Bowman	Edisto			T.		.04										.05	1.04	.02	.45	.66	.28	.48									.32	3.34
Broxton ‖	Satilla						.10				.10							.15		.32	.40	.10	.60									1.77
Calhoun Falls ‖	Savannah				.43	.02	.32								.14	1.38	.07	1.20	.94	.11	.32										1.06	5.99
Camden ‖	Wateree				.20											T.	.06	2.00	.10	1.25	1.10		.11								.12	4.94
Catawba ‖	Catawba				.50	.67										.26	.33	.93	.15	1.93	.40		.26								.36	5.79
Chappells ‖	Saluda				.80	.36										.40	.21	.09	.23	2.00	.57										.53	5.19
Charleston	Coast			.11	.01	3.56	.02			.70					.19	.53	.01		1.38	T.	.37	.33							.01		.04	7.26
Cheraw ‖	Pedee			.29	T.											.15	.07	.57		1.00	.80		.23								.11	3.22
Columbia	Congaree			.01	.12	T.	T.									.08	1.66	.08	1.48	1.09		T.								.21	.04	4.77
Conway ‖	Waccamaw	T.			T.	1.00	.50									T.		.20		1.85	2.55	.75	1.30								T.	8.15
Darlington ‖	Pedee				.13	T.	T.											.20		.70	.73	.22									.10	2.08
Dillon	Little Pedee		T.	.26	.03	.10				T.					T.	T.	.12	T.	1.34	1.39		1.49										4.73
Edgefield ‖	Savannah		.42																	1.05	1.71	.20									.76	4.14
Edisto ‖	Edisto						.30	.05	.10								.20	.30		.60	.70	.30	.50								1.60	4.65
Effingham ‖	Lynches				.02	.05					.03							.10		.65	.35	.62									T.	1.82
Ferguson ‖	Santee										.03					T.		.20	T.	.90	.60	.08	.05								.10	1.96
Florence ‖	Pedee				T.	.05												.18		1.04	.96	.05	.94								.06	3.28
Gaston Shoals ‖	Broad				.70	.10	.02			.04					.37	.06	.76	.21	.44	.39	.20	.66	.14	.01						T.	.52	4.62
Georgetown	Coast					2.16				.45					.15		.48		1.07	.21	.85	1.68									T.	7.05
Greenville ‖	Saluda			T.	1.05	.19									T.	.02	.76	.10	.40	.05		.54								.10	1.24	4.45
Greenwood ‖	do				.71	.17	.05								.32	.22	.22	.07	.37	1.90	.53	.16	.09									.37	5.18
Heath Springs	Wateree			.56												.22	.85		1.27		.75	.45								.25		4.35
Kingstree ‖	Black	1.25							.25		.22							.10			.76	.79	.10	1.48							.03	5.00
Liberty	Savannah				1.45		T.										2.15	.10			.40	.02	.40							1.25	.35	6.12
Little Mountain	Saluda	.81															.40		.91	.80			.50									3.42
Meriwether	Savannah				.41		.27									.16	.16	.17	.31	.68	.05	.66									1.30	4.17
Monetta	Edisto				.24	.22				.02						.22	.50	.11	1.16	1.91	.02	.06									.68	5.14
Newberry	Saluda				.60	.11										.62	.15	.20	1.65	.57	.01	.05								T.	.23	4.19
Pelzer ‖	do				.90	.10										T.	.54	.20	.84	.60	.80	.90	.04								.06	.96	5.94
Pinopolis	Cooper				.12	2.44		.06		.29							.03	.05	.80	.35	.25											4.39
St. George ‖	Edisto					.19	.09				.05						.11	.33		.40	.25	.10	.12								.55	2.19
St. Matthews ‖	Santee						.25											2.55	.15	1.10	.40		.15								.57	5.17
Saluda	Saluda			.53	.40	1.12										.33	.15	.12	1.58	1.34	.20	.10									.60	6.77
Santuck	Broad			.01	.75	.42									.15	.58	.15	.11	1.89	.40	.03	.08								.12	.52	5.21
Smiths Mills ‖	Pedee	.07				.03	.55		.06		.05					.03		.05		1.70	.38	.05	.35								.02	3.34
Society Hill	do			.25		.06										.02	.20		.40	1.05			.17									2.15
Spartanburg ‖	Broad				.90	.30										.10	1.05	.15	.70	.27	.40	.48	.10							.02	.82	5.29
Summerville	Ashley					.89	.01	.07		.07						.10	.05	.10	2.49	1.47	.16	.17									.20	5.78
Trenton	Edisto				.30	.26		.05		.20						.22	.11		1.80	1.72		.23									.58	5.47
Winnsboro	Broad			.90	.40											.60	.30	.50	.20			.25									T.	3.15
Winthrop College	Catawba				1.02											.33	.33	.16	1.64	.28		.15								.31	.21	4.43
Yemassee ‖	Combahee	.90					.18	.04								.12	.25	.07	.25	.40	T.	.38	.14								.44	3.17
Georgia.																																
Abbeville ‖	Ocmulgee		T.			.38	.27	.36	.49	T.	T.					.35		T.	.76	.51	.32	.17						T.			.45	4.06
Adairsville	Coosa				T.										T.	.17			.10		.60									1.88	.40	4.15
Albany ‖	Flint					T.	.68	.33	.45		.10					.70	.15	T.	.02	.82	.61	.28									.51	4.65
Allapaha ‖	Allapaha					.54	.38	.05			.36					.25	.02		.10	.12	.01	.06	.06									1.95
Americus ‖	Flint						1.06	.75	.55		.20					1.35	.12			1.08	.15	.22									.35	5.83
Athens ‖	Oconee			.32	.12	.32	.73	.16								.04	.16	.04	1.00	.64		.30								.38	1.31	5.52
Atlanta	Chattahoochee		.01		.02	.06	.03	T.		.12					.03	.20	T.	.40	.13		.30	.25									.70	.13	2.40
Augusta	Savannah			.01	.20	T.	.01	T.								.15	.11		.16	.71	.01	.05								1.19		2.60
Bainbridge ‖	Flint	.05					.27	.10	.77							.36	.11		.02	.18	.02	.15	.06									2.09
Barnesville	do				1.35	1.30	.20										.54	.20	.14	.46	.83	.39							12		.26	5.79
Butler ‖	do				.55		.64									.96	.17		.90	.80	.64	.35									.67	5.68
Camak ‖	Savannah						.57	T.								T.	.70	.20	.30	1.20	.38	T.	.08								1.02	4.45
Canton ‖	Coosa				T.		.16				T.					.20	.21		T.	T.	.70									.83	1.25	3.34
Carlton ‖	Savannah				.11	.24	.34	.27								.14	.63	.14	1.00	1.37		.20	.03							T.	1.46	5.93
Clayton	do				.60	.85										.54	.76	.28	T.	.08	T.	.53							.86	.27		4.77
Columbus ‖	Chattahoochee		T.	.37	.13	.04	.12	.03	.06	.08	.15					.40	.30		.16	.26	.10	.28								.05	.45	2.98
Concord	Flint			.47	.63	.65	.17	.22							.33	.34			1.08			.55								.40	.15	4.99
Covington ‖	Ocmulgee					.40	.35	.40								.15	.20	.15	2.20	.40	.05	.80								.05	.90	6.05
Dahlonega	Chattahoochee				.09	.07	.41			T.						.19	.36	.03	.01		.12	.33								2.21	.17	3.99
Dublin ‖	Oconee						.36	T.			.07						T.	.05	1.10	.26	.28	.25	.05								1.77	4.19
Eastman ‖	Ocmulgee						.40	.10	.16		T.						T.	T.	.49	1.11	.02	.07	.05						T.		.19	2.59
Eatonton	Oconee					.29	.18									.09	.05		1.15	.75	.02	.35								.42	.43	3.73
Elberton	Savannah				.43	.25	.03	.45								.90	.48	.12	2.50	1.10		.53									.40	.65	7.84
Experiment	Ocmulgee	.40		.26	.30	.40			.35	.16						.37			1.23	.37		.50									.17	.47	4.98
Fort Gaines ‖	Chattahoochee		T.	T.			.30	.26	.10							1.23	.20		.20	.40		.22									.45	T.	3.36
Gainesville ‖	do			.10		.30	.70	.30								.12	.46	.40	.38	.10		.38									.55	1.73	5.52
Gillsville ‖	Savannah			T.	.25	.15	.48	.16									.55	1.07	.33		.05	.41									.45	1.45	5.35
Glennville ‖	Altamaha	.09				.11	.24	.05	.12		T.					T.	T.			.10	T.	T.	.06										0.77
Gore	Coosa				.14	.19										.37	.02	.02	.37		.48	.64								3.42	.13	5.78
Greensboro ‖	Oconee				.26	.39	.10									T.	.22	.05	.84	1.91	.03	.79									.61	5.20
Griffin ‖	Ocmulgee	.93		.20		.38	.20	.05	.36		.14					.22	.25	.04	.38	1.17	.03	.58									.44	5.37
Hawkinsville ‖	do						.25									.10			.05	.80											.90	2.10
Highland Dam ‖	Chattahoochee	.02		.18	.13	.13	.05	.24			.02					.04	.28		.18	.17	.01	.26								.13	.06	1.90
Jesup	Altamaha				.85	.03									.20						.30									T.		1.38
Lisbon	Savannah				.26	.38	.47									.60	.24		1.50	.52		1.40								.08	2.32	7.77
Lost Mountain	Chattahoochee				T.	T.	T.		T.						T.	.47	T.	.05		.14	T.	.30								1.64	.28	2.88
Louisville	Ogeechee			.21		.03	.20				.30					.72	.20	.25	1.00	.25	.11									1.23		4.50
Lumber City ‖	Ocmulgee					.03	.17	.03	1.10										.25	.10		.05										.05	1.78
Lumpkin	Chattahoochee	.20			.02	.70	.05	.64		.02					.78	.30			.62	.02	.32										.16	.04	3.87
Macon	Ocmulgee			.01		.21	.08								.01	.13		.02	.75	.08		.49									1.00		2.78
Marshallville ‖	Flint	.10			.08		.66	T.	T.							.70	.10		.56	1.01		.45										1.60	5.26
Milledgeville ‖	Oconee						.18	.38			.03					.05	.07	.03	.48	.87	.02	.16										1.15	3.42
Millen ‖	Ogeechee		.25	.10	.10	.35	.19	.15	.14								.20	.10	.10	.30	.10											.70	2.78
Mineral Bluff	Tennessee			.03						.01						.01	.02	.01	.02											1.72		1.82
Montezuma ‖	Flint					T.	.15	.32			.07					.79	.16	T.	.24	.46	T.	.26	.03									.44	2.92
Monticello ‖	Ocmulgee			.09	.10	.07	1.11	.12								.21	.21	.08	.64	1.78	.04	.46										.91	5.82
Newnan ‖	Chattahoochee	.04				.08	.07		.20		.81					.12	.26	.02	.10	.04	.05	.78										.95	3.52
Norcross ‖	do					.32	.22	.01			.01					.12	.28	.01	.54	.22		.44								.48	1.12	3.77
Point Peter	Savannah				.46	.23	.15										1.06	.15	1.40	1.20		.25								1.65		6.69

TABLE 2.—*Daily precipitation for September, 1913. District No. 2*—Continued.

Stations.	Watershed.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
***Georgia*—Contd.**																																
Poulan	Suwanee					1.21	.18	.02								1.22			.04	.18	.07	.42									.33	3.67
Putnam	Flint	.62			.18	.75	.10	.10							.63	.60			.76			.44									.16	4.34
Quitman [‖]	Suwanee					.23	.47		.72							1.21			T.	.40	.21		.38									3.62
Ramhurst	Coosa				.10	T.	.05							.08		.12			.29		T.	.52								2.58	3.74
Resaca [‖]	do					.10									.10	.24				.32	.55								.34		2.34	3.99
Rome [‖]	do					T.					T.					.15	.22		.10	.08		.32								.80	1.62	3.29
St. George [‖]	St. Marys					.87	.03				1.00	.05							.78	1.77	.39	.10	.09									5.08
Savannah	Savannah					1.14	.31	.29		.29					.15	1.64	.02	T.	.49	T.	.08	T.									.09	.13	4.63
Statesboro	Ogeechee					.05	.07	.14		.02					T.	.11	T.		.17	T.	.07	.43										1.15	2.21
Talbotton	Chattahoochee	.25		.30	2.00	.10	.10	.13								.66	.14	.10	.32	.10	.70	.25										.45	5.60
Tallapoosa [‖]	Tallapoosa				T.	.02	T.				.08					.10	.46	T.	.03	.06		.88									.17	1.94	3.74
Thomasville	Ocklocknee		T.		.02	.72	.22	.08							.33	T.			.34	.19	.08	.30									.01	.01	2.30
Toccoa [‖]	Savannah			.75	.25	T.	.14										.78	.34	.40			.46									.06	1.56	4.73
Valdosta [‖]	Suwanee	.30					T.	.25								.85			1.75	.40	.35	.20										4.10
Washington [‖]	Savannah				.12		.06									.15	1.17	.12	1.20	1.95		.40										.78	5.95
Waycross [‖]	Satilla	1.51		.01		.05	.04		T.								.06			.79	.35	.11									.02	2.94
Waynesboro [‖]	Savannah	1.50			.40	.15	.27	.45	.37		.04					.12	.18	.28	.15	.34	.38	T.	T.								1.10	5.73
West Point [‖]	Chattahoochee		.71			.02	.15	.13			.19					.23	.39		.08	.08		.53								.07	.66	3.24
Woodbury [‖]	Flint			.03		1.05	.61	.21	.32							.26	.45		.50	1.15		.30									.43	5.31
Florida.																																
Apalachicola	Coast			.01	1.90	1.44	4.24	3.44	.92		.34			.24	1.48	.18	.36	3.82	.18	3.41	.17	.74										22.87
Arcadia	Peace Creek		.06			.31	.60	.02			.07			T.	T.	.07		.10	.23		.12	.14				.02	.04	1.35	.01		.02	3.16
Archer	Waccassassee	.01					.71	.08			.01				1.32		.01	.15	.32	1.20	.13	.01									.19	4.14
Avon Park	Kissimmee					.19	.02	1.31	.43		.02	.27	.02	.02				.03		.23	.50	.05			.38		.84	.03				4.34
Bartow [‖]	Peace Creek	.92					.20		.77							.10	.14	.33	.02		.91	.83	.03			.18						4.43
Bassenger	Kissimmee		T.		T.	T.	.14		T.		1.62	T.	.21		.24	.67	.10		.53	.11	T.			T.		T.					3.62
Bradentown	Manatee				.02	.46	.82		.08							.86	.35	.54			.35	.70			.18		.23	.08				4.67
Bristol [‖]	Apalachicola						.65	.25					.30	.32		.60	.50	.42		.70	.70	.15										4.59
Brooksville (1)	Withlacoochee				.12	.10	.25											1.60	.96	.47	.72	.32										4.54
Brooksville (2)	do				.02	.14	.60	.45	.01			T.			.02	T.	.06	2.47	1.45	.48	.50	.35	.31		.03							T.	6.89
Carrabelle	Coast			.49		2.26	2.35	3.50						.52	2.17	.23		2.71	1.07	.35	1.10	.67										17.42
Cedar Keys	do	.30		.22		.10	.50	.88									1.20	1.30		.85	1.75	.20										7.30
Clermont	Lake					1.00	.70	.60										.33	.29		.94	.34										4.20
Crescent City	St. Johns					.11	.12				.09	.12					.20	.02	.63	.13	.90	.06										2.38
De Funiak Springs	Choctawhatchee		1.05	T.			.68	.01							.82	3.06	.50	.12	.50	.03	.31	.01								.01		.08	7.18
De Land	St. Johns				.04	.65	.02	.11			.02	.13						.22	3.50	.12	.28	.03											5.12
Eustis [‖]	Lake				.46	.80		.07	.01			.04						.04		1.31	.05	.11										2.89
Federal Point	St. Johns		T.			1.19	.01	.02			.45	.06				.18		.89	.56	.01	.07	.02									T.	T.	3.46
Fellsmere [‖]	Sebastian				.26	.14	.55	.19	.03		.10	.49	.14			T.	.06	T.	.77	.60		.18				.61		.16					4.28
Fenholloway	Fenholloway				3.20	.42		.68								.64		1.06	.06	2.40	1.00	1.20										10.66
Fernandina	Coast						.44		.07		2.10	.50							.32	.20												3.63
Fort Lauderdale [‖]	New					.23			.57	.23	.40	.12	.11	.31	.18			1.08	.08			.12	1.21		.71	.12	.16	.90				6.53
Fort Meade	Peace Creek					.26	T.	1.08	.05	T.	T.		.23		.15	.20	.40	T.	.62	.36		.23				.57			.47				4.62
Fort Myers	Caloosahatchee				.96	.07	.33	.30	.03	.11		.05	T.		.51		.06			.73		2.14	2.12	.36		.02			.51		T.		8.30
Fort Pierce	Indian						.10	.90		.10			.20	1.80	.01			1.10			.19	1.10	.06				.66					6.22
Gainesville [‖]	Lake	.69		T.			.03	.88	.09	1.33			.06	T.			.16		.40	.41	1.58	.76	.09	.02								6.50
Garniers (near)	Coast					.95	.54	.55	.21					.06	3.35	6.45	.38	1.15	.43	.35	.02	.70										15.14
Grasmere	Lake			.05	.78	.31	.14	.40		T.		.06						.31	.10	1.40	1.37	.04										4.96
Griffin	New			.55	.24		.65	.20		.15	.05	.07	.16	.90			.33	.21				.47	.78		1.18	.35	.03	.19		.08		6.59
Hilliard	Nassau		.10		T.		.10				.40	1.80				T.			T.	.35		.15										2.90
Homestead	Coast		.20	1.32	.84		.43	1.40					2.48	.75			.02	.06			.05						.10					7.65
Hypoluxo	Lake		.06		.23	.20	.93	.15	.08			.14	1.20	.14			.50					.54	.02		.15	.73	.21	.08					5.36
Inverness [‖]	Withlacoochee		.26		.33	.10	.26								.20			2.00	2.15	.37	.23	.38										6.28
Jacksonville	St. Johns					1.13	T.	.02			.86	.08				.11	T.	.35	.29	.85		.05			T.	T.	T.					3.74
Jasper	Suwanee	.50				.63	.10	T.								.45		.05	1.62	1.13	.05	.19				T.						4.72
Johnstown	do					.50	.54				.30						.40	1.50	.40	1.71		.04										5.39
Key West	Coast	.18	.46	.18	.41	3.67	.04	T.	.36			.39				.01			T.		.03	.08		T.	.11	.04	.25	.01	T.		T.	6.22
Kissimmee	Kissimmee	T.			.08	1.15	1.48	T.	T.	.35							.48			1.40	.81	T.			.28							6.03
Lake City [‖]	Suwanee	.66		.22		T.	.13	.38				T.				.06		T.	.70	.21	.46	T.	T.									2.82
Live Oak	do	.14	.01	.10	.45	.31	.30	.15								.72		.75	.20	.83	.10	.14										4.20
Lock No. 1	New			.44	.54	1.38	.03	.16	.02	.10	.38		1.45	.05			.53				.13	2.13	1.28		.50	.20	.33					9.65
Lucerne Park	Peace Creek				.85	.48	.18	.14		.12					.04		.32			.32	.64	.10			.26	.12						3.57
Macclenny	St. Marys	.18	.02			1.10	.02	.50			.05	.07						.22	.24	1.16		.06										3.62
Madison [‖]	Suwanee	T.				.21	.71	.43	.94							.97			.45	.86	.33	.12										5.02
Malabar	Indian										.56	.13					.28		1.02		.92	.21			.36							3.48
Marianna [‖]	Apalachicola					.10	.75	.35			.18				.85	.12		.14	.62			.20									.50	3.81
Merritts Island	Indian				T.	T.	.61	.05	.01		.01	2.31	T.				.05	.18	.58	1.54	.30	.23			3.86					.01		9.74
Miami (1)	Coast	.04	T.		.57	.05	2.62	.20	.01	T.		.07	.67	T.	T.	.15	1.52	.08				.09			.16	.08	.15		T.			6.46
Miami (2)	do	.15	.02		.35	.13	2.45	.15	.15				.51	.20	.15	.16	1.62	.21	.03			.38			.13	.10						6.89
Middleburg	St. Johns	.77	.07			.19					.33		.14				.11	.32	.82	.89	.07		.04									3.75
Molino	Escambia						.45								3.30	6.55			.05		1.05										2.00	13.35
New Smyrna [‖]	Coast							.05				.20						.05		.20	1.17	.55	.08					T.	.05	.05		2.40
Orange City	St. Johns				.04		.57	.03										.55	.53	.38	.53	.05										2.68
Orlando	do				.55	.50	.15	.05		.15		.05			T.					3.47	.12	.40	.10		.07							5.61
Panama City	Coast						1.55		1.03		.09				2.00			.10	.14	1.20	.35											6.46
Pensacola	do				T.	.02	.99	3.89	.17		.12			.71	1.69	3.17		1.57	.39	.01	.45	T.							T.		.53	13.71
Pinellas Park	do			.42	.07	.19	1.00	1.60	.27	.21						.50	.26	.55		2.20	.95	.52											8.74
Plant City	Hillsboro						.07	1.50		.06						.86		.42		.10	.71	.72							.30			4.74
Ritto	Caloosahatchee			.08	.70	.12	.04	.15	.23			.28	2.05	.04	.87		.03		.16	.13	.35	.02					.10	.01	.10			5.46
Rockwell	Withlacoochee					.18	.11		.50		.05								.85	1.40	.60											2.69
St. Augustine	Coast						.10				.98								.30	.47			.25									2.10
St. Cloud	Kissimmee	.23			.90	.07	2.00	.14	.03	T.	T.			T.	T.	.16	.16	T.	.70	.10	T.				.32							4.81
St. Leo	Withlacoochee	T.			.37	.53	.30	.66	.04		T.				.20		.05	.54	.07	.03	.51	.64			.80						T.	4.74
Sand Key	Coast	.31	.02	.15	.70	1.57		.02	.05	.06			T.	.14	T.		.01	T.		.07	.26	T.	.03	.01	.01	.39	.56	.05				4.41
Sanford [‖]	St. Johns				.01	.31	.10	.10			.08						.16	.14	.31	.34	.12		.06	.05								1.78
Satsuma Heights	do				.08	.26	.08				.52	.08						.67		.14		.21				T.	T.					2.04
Switzerland	do	.51				1.38	.05	.06			.20	.06						1.02	1.20	1.96		.07			.02							6.53
Tallahassee [‖]	Ocklocknee			.08	.03	.85	.28	.25	.95							.45	.12	.58	.05	.38	.35	.83								T.		5.20
Tampa	Coast				.12	.09	.31	.29	.12	.01	.06					.10	.07	.08	T.	.09	.92	.18			T.							2.44
Tarpon Springs	do		.10	.52	.42	.18	1.34	.28	.36							.42	.72	.84	2.28	1.51	1.38	.28			.13							10.76
Titusville	Indian						.89	.04			.01	.14					.01	.12		2.10	.32	.06			.04							3.73
Wausau	Choctawhatchee	.30												T.	1.40	.26	T.	T.	.50	.30	.20								.50			3.46
Zona	New			.37	.18	.25	.73	.54	.03	.21	.20	.30	4.35	.07	.09					.03		.45	.18		.72	.30	.03	.52				9.55
Alabama.																																
Alaga [‖]	Chattahoochee		.26				.04		.18						T.	T.	T.		T.	.45	.14	T.	T.										1.07
Andalusia	Escambia	.30	T.			.60	T.	.30					1.20	4.60					T.		.40							T.		1.70		9.10
Anniston	Coosa	.05		T.	.18	.97	T.	T.		.01	T.				.07	.19		.31	.12		.04								.65	2.14	.22	4.95
Ashville	do			.15	T.	T.	.27	T.			.21				.06	.27		.55	.79		.15									4.30	.47	7.22

TABLE 2 —*Daily precipitation for September, 1913. District No. 2*—Continued.

Stations.	Watershed	Day of month. 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	Total.
Alabama—Contd.																																
Auburn	Tallapoosa	.10			.02	.07	.09	.07		T.	.36				.22	.70	T.	T.	.20	.06		.50								.10	1.37	3.86
Benton ‖	Alabama				.48	.34	T.	.74							.08	1.44						.08								2.58		5.74
Bermuda	Escambia		.10		.04	T.	.92	.07	T.					.20	2.05	1.73	.23	.17	.08			.24							.40	.15	3.89	10.27
Birmingham	Black Warrior			T.	.41	.70	.79	.03	T.	T.					.07	.22	.04	2.93	.20	T.	.09								1.40	.42	.11	7.41
Calera ‖	Coosa				.05	1.85	.68	.30		.25						.70	.26	.61	.60	.17										.68	.85	7.00
Camp Hill	Tallapoosa	.17	.60				.66	.13			.95				1.00																2.00	5.51
Citronelle	Alabama	.01	.03	.36	.05	.03	T.	.10		.12		.30		1.20	2.25	1.24	.06		2.24	.01		.08								.22	1.74	10.04
Clanton ‖	Coosa		.05		.64	.52	.51	.08	.11						.03	1.05	.71		.10	.14		.01								.39	.56	4.90
Cochrane	Tombigbee				.30	.10		.60		.62					.75	1.00	.56	3.08	.27											.80	.12	8.20
Cordova	Black Warrior						.30									.60		1.65	.40		.90								1.10	.35		5.30
Cullman	....do					.05	.30			.12					T.	.10	.65	.54			.10								.75	2.91		5.52
Dadeville ‖	Tallapoosa		.56	.04	.03	1.25		.75	T.	T.	.09	T.				.30	.45		T.			.43								T.	1.72	5.62
Daphne	Coast	.13		.32		2.85	1.20				.47	T.		1.95	7.10	6.50	T.	T.	.59	T.		T.							T.		2.35	23.46
Demopolis ‖	Tombigbee		.63			.60	.12	.46	.05						.74	.33	.43	.13	1.15	.68										.12	1.20	6.64
Dothan	Coast		.04		.09		.84		.72							.70	.18	T.	.34	.09		.10								.18		3.28
Eufaula ‖	Chattahoochee		.12	.16	.02		.30	.12	.10			.06				.92	.56	T.	.22	1.04		.46								.62	.04	4.74
Evergreen ‖	Escambia		.10			.08	.26	.46		.65					.73	1.50	1.38	.93		.52		.22									.16	6.99
Ft. Deposit	....do				.10	.20	.85	.23	.20						.04	.85	1.70		T.			.30								.20	1.40	6.07
Gadsden ‖	Coosa				.36	.37			.14							.04	.12	.08	.76	.22	.14	.40								3.36	1.26	7.25
Goat Rock	Chattahoochee		T.	.12	.19		.05	.13	.22	.01	.13					.29	.24		.04	.25	.04	.35								.03	.58	2.67
Goodwater ‖	Coosa		.16		.12	.17	.02	.63	.04		3.30	.01				.30	.66	.01	.02	.09	.10	.13								.10	.40	6.26
Greensboro ‖	Black Warrior		.54			.75	.25	.95	.27						.35	.76	.58	.04	1.05	.38									.72		.89	7.53
Greenville ‖	Escambia		.15		.42		.51								1.60	.84	1.21			.46											3.42	8.61
Hamilton	Tombigbee						.16	.34			1.12						.64	.55	.45	.46									.28	1.18		5.18
Healing Springs ‖	....do				.61	T.	.08	T.						2.30	1.05	T.	.20	.97	.45	1.05										1.25	1.20	9.16
Highland Home	Escambia	.42		.02	.07	.02	.21	.21							.38	2.68	.08	T.	.26	.06		.17						T.		.11	3.68	8.37
Livingston ‖	Tombigbee					.73		1.29	.10	1.28					.50	1.55	1.50	1.25	1.58	.10										.31	1.01	11.20
Lock No. 4	Coosa				.30	.26		.15								.32		.95	.85		.16								2.70	1.00	6.69
Maple Grove	....do			.18	.30	.10		T.		T.					T.	.31	T.	.63	.11	T.	.52								2.70	1.47	.06	6.38
Mentone ‖	....do				T.	T.										.34	.16		.54	T.										.90	3.10	5.04
Milstead ‖	Tallapoosa		.32		.12			.92			.16	.20				.54	.97		.12			.55								1.80		5.70
Mobile	Coast				T.	.11	.11	.22	T.		.06		.18	3.38	4.17	3.88	1.17		.07		.22								T.	.04	1.89	15.50
Montgomery	Alabama	.01		.01	.41	.36	.27	.14			.14				.33	2.24			.21	T.	.61	.01								.12	1.51	1.60	7.97
Newbern	Black Warrior	1.00		.01	.65	.87	1.35	.24						.11	1.00	.70	.02	.50	.52		.01									.70	1.25	.22	9.15
Oneonta	....do				.12	.32	.01	.22		.09	.05				.05	.23	.18	.70	.60		.33										4.25	.20	7.35
Opelika ‖	Tallapoosa		1.46			.44		.46	.57	T.						.50	.43		.20	.10		.57								.10	.82	5.65
Ozark ‖	Coast			T.			T.	.70	.40							.60	.70	T.	T.			.40										2.80
Prattville	Alabama	T.			.55	.26	.47	T.	T.		.14				.21	1.74		T.	.19		.02								T.	.95	1.12	5.65
Pushmataha	Tombigbee	.37		.05	.24	1.45	1.22	.58	.03					.20	.90	1.00	1.00	2.25	2.47	.53										.29	1.78	.82	15.18
Robertsdale	Coast		.07	.16		1.45	.32	.62	.32		.11		.45	1.56	3.84	3.53	.14		.10			.53								T.	.02	.32	13.54
Selma ‖	Alabama				.23	1.64	.83	.92	.12						.30	1.02	.30		.03	.33											.09	1.43	7.24
Springhill ‖	Coast					.06	1.57	.29	.03			.91			6.75	1.87	1.30		.01			.10									4.90	17.79
Talladega	Coosa				1.40		.30	T.	T.	4.10					T.	.50		T.	.25		T.								.60	1.15		8.30
Tallassee ‖	Tallapoosa		.02		.02	.04	.29	.31	.02		.04	.24				.31	.98		.10	.06		.96									.61	4.00
Thomasville ‖	Tombigbee				.08	.83	.67	.50		.69					1.14	1.00	1.37		.06	.34											1.34	8.02
Troy	Escambia	.12		.04			.66	.01							.33	1.67	.04		.01	.17		.33							.58	.47	1.35	5.78
Tuscaloosa ‖	Black Warrior		T.		.18	.30	.05	.32	T.	T.					.06	.27	.32	4.08	.91	.03	T.	.18								.59	.45	7.74
Tuskegee	Tallapoosa						.01			.75					.04	.90			.01		.67								.05	.35	2.00	4.78
Union Springs ‖	....do		T.	T.	.30	T.	.20	.36	T.			.07				.31	.86		.30	.15	.10	.32									.54	.57	4.08
Uniontown	Black Warrior				.48	.78	1.30	.12							.95	.54		.50			.14									.50	1.24	6.55
Valley Head	Coosa	.43			.15				.15						T.	.05		T.	.70		.17									2.00	.40	4.05
Wetumpka ‖	....do				.85	.17		.30			.10					.75	.80					.62								.44	1.39	5.42
Mississippi.																																
Aberdeen ‖	Tombigbee				.34			.87	T.	.09					.80	.54	.31	.70	.39											.71		4.75
Agricultural College	....do			.10			.30	.05	1.35	.01	.10			T.	1.05	1.20	.60	1.95	.30	.10	.01								.20	.60	.01	7.93
Bay St. Louis	Coast	.03	.03		.03	1.06	.29	2.15	.96	1.12		.39	.49	1.78	1.92	.02	.33	T.	1.42	.06						.01		T.	T.	5.00	.87	17.96
Bay Springs	Leaf			.36		.84			.23						.80	.90	.65	1.37	.35										.20	2.05	1.28	9.03
Biloxi	Coast	.11				.11	.31	.12	.26	.57			.34	2.05	1.85	.22	.42	.93	.64	T.										.20	2.40	10.53
Booneville	Tombigbee				.42	.45		.15	T.		T.				.10	.26	3.94	.11	.13	.28	.02								*	2.98		8.94
Brookhaven ‖	Pearl					1.03			.46	.35		.99			.30	.51	2.60	.18	.04	.10										.30	.03	1.58	8.47
Collins	Leaf	T.	T.	.04	.04	.24		.07	.88		.10				.40	.52	.55	.38	.43	.30		T.							.18	.12	2.32	2.04	8.61
Columbia ‖	Pearl				T.				.24	.72	.11	.05			.90	.88	.21		.61	.89	.12		.02							.09	.35	.21	5.40
Columbus ‖	Tombigbee				.11	T.		.45		T.	.81					.54	.80	1.07	2.28	.66	.46		T.								1.25	T.	8.43
Crystal Springs ‖	Pearl	.13	.34	.10	.15					.22		.47		.20	.68	1.16	.20	5.00	.32	1.06										.25	.10	1.54	11.92
Edinburg	....do	T.	.68				.12		.15	.02				.31	1.31	2.06		1.22	.61											.76	.99	.14	8.37
Enterprise ‖	Chickasawhay					.26		.16		.16					.98	1.60	.10	2.30	.70	.08												1.89	8.23
Fulton	Tombigbee	.06		.04	.37	.11	.34	.03	.45		.39				.06	.09		.23			.07									11	1.47		3.82
Hattiesburg ‖	Leaf							T.		.54		T.		.26	1.10	.82		.10	1.24											.33	.76	5.15
Hazlehurst ‖	Pearl				.01	.11			.05	.05		.32		.23	.56	1.83	.15	2.40	1.56	.23										.23	.04	.50	8.27
Hickory ‖	Chickasawhay			.55		.36	.20		.30					.10	.75	.40	1.85	.60	.40											2.91	1.02	9.44
Jackson	Pearl	.05		.08	.01	.12	.02	.25	.13		.02	T.		.81	.84	.35	.01	1.05	.17										.18	1.87	1.33	2.95	10.24
Lake ‖	....do					.18			.10	.08					1.25	1.50		1.50	1.05	.10											.30	2.30	8.36
Laurel	Leaf	.01	T.	T.	.36	.34	T.	1.53	T.	.04	.28		T.	.22	.72	.92	1.68	.73	.51		T.	T.						T.	.10	.90	1.08	9.42
Leakesville ‖	Chickasawhay	.40				.93								.19	1.81	2.10		.80	1.20	.60	*											1.10	9.13
Louisville	Pearl				.04	.20	.62	.17	.10					.08	.93	.80	.95	3.23	.28											.22	.46	.05	8.13
McNeill	....do				.26	.28	T.	.15	.28	.15			.75	1.93	1.55		.10	1.08	.31		T.					T.		.03	.43	.96	.61	8.87
Macon ‖	Tombigbee		T.		.08			.78		.21					.84	1.05	.15	1.57	.33	.03											1.30	.13	6.47
Magnolia	Pearl	.01			.03	.40		.65	T.	.76	T.		.01	1.25	2.81	.01	.82	1.15	.11		T.					.01	.13	.25	.11	.27	2.36	11.14
Meridian	Chickasawhay	.03		.08	.42	.02	.52	T.	T.				.04	.45	.25	1.15	.85	1.70	.23		.01								T.	.07	1.94	.76	8.52
Merrill ‖	Pascagoula		.92		.05	.50	T.			.75				.13	1.84	.80	1.07	.30	1.80	.30												.45	8.91
Monticello	Pearl				.66	.40		.62	.16	.04	T.	.10		.20	.56	.64	.32	1.39	.25		T.	.01							.06	.02	1.17	2.52	9.12
Okolona ‖	Tombigbee				.75	.35		.45		.32	.10				.40	.35	2.10		.20												1.85		6.87
Pascagoula	Coast	.62					.37	1.04	1.21					.11	1.98	2.84			1.48			.10										1.28	11.03
Pearlington	Pearl	T.			T.	.47	.58	.41	.12	.58			.62	1.30	3.14		T.	.31	.61		T.							T.	.28	1.41	.60	10.43
Porterville	Tombigbee	T.		.35		.78	.18	.03					T.	T.	.66	.79	1.38	.12	.38	.59	T.								.61	1.00	.30	7.17
Shubuta ‖	Chickasawhay		.75	.36		1.66		.26							.92	2.00	.45	.63	1.75	.18												1.98	10.94
Tupelo	Tombigbee			.02	.12	.13		.12							.10	.43	4.32	.05	.10	.02	.02									.13	1.14	T.	6.70
Waynesboro ‖	Chickasawhay	.05	T.	.05	.25	.88		.23	.25	T.				T.	1.00	2.38	1.25	1.50	.72	.80		T.									.45	.86	10.67
Woodland	Tombigbee				.95				1.50					.50	1.00	1.10	1.15	.15											.20	1.50	.30		8.35

* Precipitation included in that of the next measurement
‖ Precipitation for the 24 hours ending on the morning when it is measured.
‡ Separate dates of falls not recorded.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 3.—*Maximum and minimum temperatures at selected stations for September, 1913. District No. 2, South Atlantic and East Gulf States.*

Date.	Virginia.										North Carolina.															
	Callaville.		Hot Springs.		Lynchburg.		Norfolk.		Richmond.		Charlotte.		Edenton.		Fayetteville.		Hatteras.		Newbern.§§		Raleigh.		Reidsville.		Salisbury.		Wilmington.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	91	68	76	55	88	62	81	73	87	67	87	68	84	70	90	69	83	75	91	72	87	69	86	64	90	64	88	70
2	89	66	78	57	84	66	80	74	83	69	85	68	84	72	87	68	78	68	83	72	84	69	84	66	88	64	84	71
3	80	68	72	56	74	69	78	69	76	69	76	65	82	68	79	67	80	69	77	67	73	65	75	67	82	60	75	66
4	87	70	80	52	81	69	83	71	86	69	83	65	92	68	88	65	83	76	81	68	85	67	83	66	88	67	84	69
5	89	69	75	62	86	67	88	72	87	70	85	69	91	68	87	70	82	72	87	70	83	69	86	66	88	68	84	74
6	90	66	80	61	89	68	87	71	88	70	87	69	92	69	90	69	84	72	93	69	88	68	88	69	89	60	84	71
7	91	65	82	58	89	68	89	72	89	70	89	69	92	69	90	66	85	72	91	68	88	69	90	67	89	66	84	69
8	90	70	82	59	87	69	89	71	88	72	90	67	90	70	92	68	86	74	93	66	90	69	88	65	90	60	88	67
9	83	67	71	55	76	58	77	67	77	59	77	62	78	65	82	68	78	70	76	71	76	61	76	64	80	63	78	65
10	77	49	67	39	71	48	69	61	72	52	72	54	77	57	78	56	74	65	82	58	74	57	72	51	78	49	77	58
11	78	42	72	38	77	45	74	58	77	49	78	52	78	49	81	52	72	62	81	54	76	54	78	49	78	48	75	55
12	83	50	78	49	87	56	79	57	84	54	84	58	83	56	85	52	77	62	85	51	82	54	84	55	85	65	80	58
13	84	55	70	52	77	59	75	63	77	59	82	61	83	64	86	60	81	69	89	59	81	60	79	54	83	68	86	64
14	78	54	73	50	65	52	69	62	69	53	69	61	78	57	77	63	76	70	76	61	72	60	67	54	80	62	77	63
15	74	55	62	39	64	52	69	62	68	52	62	54	72	61	73	58	75	69	79	63	68	57	63	53	77	62	78	64
16	73	56	62	52	67	56	69	64	71	57	68	58	73	61	77	60	76	70	71	64	74	60	67	57	75	63	74	63
17	82	61	63	52	66	60	79	67	78	62	68	61	84	67	78	65	81	72	86	67	74	63	69	59	70	60	81	67
18	77	62	68	56	70	62	80	68	73	65	69	65	82	64	73	65	80	70	87	67	71	64	70	61	70	61	81	69
19	79	65	69	56	76	65	81	68	75	67	75	66	80	70	77	66	80	71	85	69	77	66	77	65	70	60	80	70
20	82	67	73	55	79	67	81	67	82	68	80	64	85	67	82	65	80	72	87	67	80	65	78	66	72	64	83	70
21	84	65	74	42	71	55	80	62	82	61	70	52	84	72	78	59	82	69	84	70	78	56	77	54	70	59	79	60
22	68	46	69	54	63	45	68	55	66	46	66	46	73	53	72	48	71	64	74	52	66	49	65	43	80	42	71	53
23	76	37	73	33	74	39	73	54	71	43	74	46	73	43	77	45	70	62	78	48	74	46	72	45	80	43	72	51
24	77	41	69	39	74	44	70	59	72	47	76	54	77	47	78	47	72	62	78	51	74	54	71	48	78	42	72	53
25	80	44	73	41	79	46	72	61	77	50	78	52	76	51	80	51	72	65	80	56	76	54	75	50	79	45	75	56
26	82	46	76	43	83	50	76	60	80	53	80	55	78	50	83	54	74	64	84	56	80	57	79	58	80	47	80	57
27	79	55	70	50	77	61	72	60	71	61	81	59	81	59	87	59	78	64	88	58	81	60	80	60	85	47	84	61
28	78	58	72	46	73	59	71	62	74	57	69	60	75	60	80	62	72	66	78	61	74	60	72	56	75	58	75	65
29	81	56	73	44	78	61	78	60	80	58	71	61	83	55	80	60	78	64	85	59	75	61	77	58	73	59	81	62
30	85	62	72	58	84	63	80	66	82	65	78	63	82	60	88	59	78	67	81	63	83	64	82	63	80	60	85	69
Mns.	81.6	57.8	72.5	50.1	77.0	58.0	77.2	64.5	78.1	59.8	77.0	60.1	81.4	61.4	81.8	60.5	77.9	68.2	83.0	62.6	78.1	60.9	77.0	58.4	80.1	57.9	79.8	63.7

Date.	South Carolina.																Georgia.											
	Charleston.		Columbia.		Conway.§§		Ferguson.§§		Georgetown.		Greenville.§§		Newberry.		Society Hill.		Albany.§§		Atlanta.		Augusta.		Dahlonega.		Macon.		Rome.§§	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	88	74	92	69	90	69	91	65	87	70	91	64	92	66	91	70	91	70	91	69	92	70	88	53	91	71	95	66
2	90	74	90	71	89	70	89	66	87	70	91	66	90	63	80	67	92	71	92	73	90	71	89	69	91	69	96	66
3	89	70	88	67	85	69	92	82	88	69	90	64	90	67	90	65	91	73	91	70	90	68	89	54	90	70	96	67
4	85	76	90	68	88	69	80	77	90	73	79	64	81	65	84	68	91	70	83	68	84	71	82	65	85	71	86	68
5	82	72	83	70	79	72	91	78	87	69	86	63	86	77	89	67	89	69	82	67	85	71	82	67	87	70	92	69
6	83	75	88	69	85	68	89	79	89	70	86	67	88	69	91	64	87	71	84	69	87	71	82	67	86	72	92	70
7	84	76	88	68	87	71	90	64	87	69	87	66	89	67	92	65	89	72	84	69	88	70	83	68	87	71	91	70
8	86	74	91	68	89	70	85	64	87	65	89	62	91	66	81	67	89	71	84	68	90	71	88	59	88	71	93	64
9	90	65	86	68	81	70	90	66	85	71	83	63	86	62	78	56	88	70	87	71	89	70	84	64	91	69	94	66
10	78	67	77	61	79	58	81	62	77	65	76	57	78	58	83	52	88	67	76	62	79	64	74	62	79	65	85	67
11	78	64	81	56	88	55	80	55	76	57	79	49	81	53	86	51	82	67	79	55	80	59	79	55	81	58	86	56
12	79	64	87	57	83	52	85	50	81	54	85	51	86	53	86	60	88	62	83	64	84	55	84	52	84	55	90	57
13	82	67	88	63	88	57	89	50	85	59	85	56	88	58	78	64	88	67	85	62	86	62	84	54	87	59	93	57
14	79	70	80	65	81	60	84	55	80	60	67	61	78	64	75	59	85	66	76	60	81	65	70	62	81	65	80	60
15	77	68	69	59	80	61	80	63	79	65	57	56	68	58	75	59	84	65	61	55	72	62	63	54	66	62	65	60
16	80	68	67	62	74	65	74	64	74	65	71	53	68	58	77	64	77	63	65	55	69	63	65	55	70	63	70	59
17	81	72	77	66	.....	67	83	66	83	69	68	56	74	63	73	66	83	65	67	61	82	65	68	61	76	64	71	61
18	84	71	77	68	83	70	87	68	83	70	71	60	73	65	73	67	86	70	74	64	77	70	73	63	76	69	73	65
19	83	73	76	66	81	70	85	70	85	69	79	65	78	68	84	66	88	72	80	66	80	69	79	62	81	69	85	63
20	83	70	84	68	82	63	81	70	84	68	81	65	83	66	79	68	89	71	82	63	84	69	80	58	86	69	88	61
21	83	61	73	56	81	55	80	73	82	68	65	61	65	58	77	47	65	58	63	50	73	55	71	50	73	52	68	51
22	72	53	69	48	72	50	73	62	81	51	69	40	70	42	81	43	73	45	68	45	70	47	66	36	72	45	75	40
23	73	58	75	49	78	48	76	45	75	51	75	41	74	44	78	50	79	51	74	54	76	47	72	41	75	48	80	42
24	74	63	77	49	78	48	79	45	79	51	78	43	78	46	85	55	81	53	74	53	77	47	73	45	76	50	80	45
25	79	64	79	54	80	54	80	47	76	55	78	44	79	50	89	54	82	59	77	54	81	52	75	52	79	51	83	45
26	79	64	82	55	82	55	83	53	80	57	83	51	83	51	90	60	85	60	80	60	84	58	80	52	82	64	85	47
27	81	66	85	58	85	58	85	53	83	59	81	51	85	54	84	65	88	65	79	66	84	57	76	56	83	61	82	55
28	79	70	82	63	85	61	80	61	82	62	73	56	77	62	89	66	90	66	81	64	84	64	73	51	86	65	87	60
29	82	71	78	68	85	64	86	65	87	68	67	61	76	62	89	64	92	67	80	63	82	66	66	61	86	68	75	64
30	85	72	79	69	86	69	83	66	84	70	82	61	82	68	86	65	90	70	76	64	84	69	79	59	80	66	84	64
Mns.	81.6	68.4	81.3	62.6	82.9	64.4	83.7	62.8	82.8	64.0	78.4	57.2	80.6	60.1	82.8	61.3	85.7	65.5	78.6	62.1	82.1	63.3	77.2	56.9	81.8	63.4	84.0	59.5

TABLE 3.—*Maximum and minimum temperatures at selected stations for September, 1913. District No. 2*—Continued.

Date.	Georgia.								Florida.																	
	Savannah.		Thomasville.		Waycross.§§		West Point.§§		Avon Park.		Fort Myers.		Jacksonville.		Key West.		Marianna.§§		Miami.		Orange City.		Orlando.		Pensacola.		Tallahassee.§§	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1....	88	70	90	67	91	67	87	69	90	71	89	72	88	72	89	73	95	70	85	79	92	69	89	71	87	75	91	69
2....	90	73	91	70	92	69	89	66	90	72	88	73	90	71	87	74	92	70	86	80	93	68	89	73	89	71	92	71
3....	89	70	92	70	91	70	92	70	91	72	88	74	92	72	85	75	92	70	88	71	98	66	90	70	93	76	92	73
4....	87	71	89	68	92	71	87	72	88	73	85	72	89	74	80	75	88	68	81	74	95	68	91	71	87	72	91	69
5....	84	72	89	69	92	72	89	68	81	71	82	72	85	73	83	71	81	69	81	74	86	68	85	75	84	74	83	67
6....	84	73	86	71	91	71	87	69	82	71	85	73	88	75	86	77	86	71	83	70	84	72	84	72	83	71	86	70
7....	84	73	90	72	90	72	84	71	86	71	87	72	88	74	84	76	91	72	87	72	86	70	87	71	78	71	87	70
8....	87	72	88	70	91	69	86	69	86	71	88	73	87	74	87	74	92	66	86	78	87	69	89	70	80	74	88	71
9....	90	70	90	67	92	66	89	68	90	72	89	73	89	70	87	78	84	69	88	77	91	66	88	70	85	74	91	69
10....	77	68	83	70	84	71	78	69	88	73	88	73	79	70	88	78	86	69	85	73	84	70	83	73	83	73	85	70
11....	79	63	83	66	86	65	79	56	87	70	85	73	82	70	85	77	92	65	85	72	85	68	84	69	82	71	85	67
12....	83	64	86	62	88	61	84	54	84	69	84	71	84	67	86	76	90	62	83	71	85	64	86	68	82	74	87	64
13....	85	65	87	63	90	59	85	58	89	69	86	68	85	67	86	77	81	65	86	70	89	65	89	68	80	70	86	65
14....	80	68	84	66	87	66	79	64	90	71	85	72	86	71	87	78	82	70	87	72	88	66	89	70	80	70	80	65
15....	76	70	82	71	90	70	66	62	92	73	90	72	88	73	87	78	90	70	87	77	92	66	91	71	80	69	82	66
16....	73	67	87	69	83	72	73	62	87	72	88	72	83	72	87	79	78	70	84	73	90	68	90	72	81	73	88	68
17....	84	69	84	69	88	67	73	62	92	73	89	74	87	71	88	80	85	70	87	79	89	69	89	71	80	72	82	69
18....	87	70	88	72	88	69	76	65	91	72	88	73	86	72	87	77	85	70	86	77	93	69	90	72	75	72	83	70
19....	82	70	80	71	75	70	82	69	92	73	86	73	85	69	88	80	90	70	86	74	89	72	88	71	81	72	84	69
20....	84	69	85	71	83	70	85	66	85	71	87	73	81	71	88	80	74	61	88	78	88	73	87	70	84	69	83	70
21....	80	59	74	51	73	71	66	53	84	70	83	71	81	61	88	77	77	45	86	73	87	70	84	72	70	58	71	61
22....	73	52	74	46	74	48	71	43	80	61	81	66	76	55	86	78	83	48	83	71	79	55	79	59	72	58	74	49
23....	74	54	77	46	79	46	75	46	85	73	81	66	78	60	87	77	85	52	83	76	82	53	80	61	75	58	79	53
24....	75	59	82	60	82	51	75	47	82	70	86	71	81	65	86	74	86	58	86	75	80	65	84	68	80	66	81	56
25....	78	60	82	58	79	59	78	49	85	70	83	73	83	67	86	75	88	61	84	75	86	65	84	69	78	70	83	60
26....	80	64	85	66	86	69	80	54	86	69	87	71	84	68	85	72	.....	65	87	77	86	60	87	67	78	70	86	65
27....	83	64	86	66	89	66	81	60	88	71	87	71	83	69	87	77	.....	68	87	78	87	63	86	69	79	71	87	66
28....	82	67	89	69	89	65	84	63	89	71	89	72	84	71	87	79	.....	67	86	80	89	65	89	71	81	74	84	67
29....	82	69	90	68	90	65	84	68	91	71	88	71	88	71	87	79	.....	67	87	79	88	64	88	68	83	78	89	68
30....	87	71	88	70	91	67	77	65	93	71	88	71	90	74	87	78	84	68	86	79	95	64	89	67	84	71	90	71
Mns..	82.2	66.9	85.4	65.8	86.5	65.8	80.5	61.9	87.5	70.9	86.3	71.7	85.0	69.6	86.4	76.6	86.0[d]	65.5	85.5	75.1	88.1	66.3	86.9	69.6	81.2	70.6	85.0	66.3

Date.	Tampa, Florida.		Alabama.														Mississippi.									
			Anniston.		Bermuda.		Birmingham.		Eufaula.§§		Mobile.		Montgomery.		Tuscaloosa.§§		Uniontown.		Bay St. Louis.		Columbus.§§		Hattiesburg.§§		Jackson.		Meridian.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1....	91	72	92	66	94	68	93	70	88	67	90	76	93	71	98	70	96	66	91	74	100	69	93	69	95	69	89	72
2....	90	74	94	63	94	67	94	68	89	65	94	72	93	69	98	69	97	67	92	74	101	69	94	68	98	67	91	69
3....	89	74	95	68	97	68	97	71	88	67	94	75	96	75	102	79	98	68	97	71	102	71	98	68	99	67	96	68
4....	87	73	85	70	84	67	89	69	85	68	83	72	83	68	92	70	87	68	89	69	98	70	89	68	95	68	83	68
5....	84	71	85	68	91	71	79	69	85	65	87	73	84	71	85	70	87	69	89	69	89	69	89	69	94	68	85	68
6....	85	72	87	71	80	68	85	69	82	67	84	72	84	70	87	70	83	69	87	74	91	69	90	68	91	71	78	68
7....	88	72	87	72	84	70	88	70	83	68	80	74	85	71	87	70	85	68	85	72	90	70	87	72	91	72	83	70
8....	89	72	88	68	87	70	86	70	84	69	84	73	88	72	90	70	88	70	86	73	90	71	88	68	94	72	85	71
9....	91	72	90	66	89	68	89	70	86	62	88	74	90	71	93	70	89	69	85	73	94	71	90	72	90	72	88	70
10....	88	73	81	66	84	67	81	68	78	65	89	73	79	68	85	72	86	68	90	74	88	71	92	69	90	73	85	68
11....	87	71	84	62	86	62	83	61	80	57	86	71	82	62	87	64	86	61	84	71	89	64	90	71	89	69	83	66
12....	85	68	86	55	89	62	84	63	82	56	84	73	86	61	88	59	85	60	84	72	90	59	89	63	91	62	86	65
13....	90	70	87	56	87	63	85	61	84	56	80	72	85	64	86	61	84	65	80	71	85	62	75	64	76	68	78	66
14....	87	72	77	65	75	67	73	68	80	58	76	70	73	67	74	64	80	64	78	71	78	63	78	66	81	68	77	67
15....	91	73	65	61	71	69	70	64	72	66	76	72	71	67	74	64	81	66	86	73	77	65	89	66	82	70	79	70
16....	90	73	75	61	83	69	73	64	76	62	84	73	75	66	78	68	80	67	86	71	75	69	92	70	90	65	79	70
17....	89	74	73	64	77	67	72	65	74	63	84	73	74	67	77	65	75	68	86	75	73	67	82	71	78	70	72	66
18....	88	74	73	66	78	71	75	65	79	64	76	72	75	69	81	66	81	67	80	71	81	67	88	68	85	67	78	67
19....	87	73	81	63	85	68	81	66	79	66	82	71	84	68	85	66	84	68	84	69	85	64	87	64	90	63	83	64
20....	86	71	85	61	87	65	81	57	82	67	87	66	85	65	85	65	84	64	88	70	79	65	86	62	82	65	81	59
21....	83	66	63	43	68	51	64	48	67	52	71	56	67	54	67	48	75	49	81	58	68	47	72	49	73	46	66	50
22....	78	59	72	39	74	42	73	45	70	43	74	53	73	47	76	44	76	46	76	48	78	44	77	44	80	44	74	46
23....	81	62	79	45	79	45	78	53	73	44	78	54	77	49	83	45	78	47	79	56	81	45	80	48	82	47	76	48
24....	87	67	79	46	81	50	79	54	76	46	84	63	77	54	81	48	79	50	81	63	82	50	84	66	85	48	78	51
25....	86	70	81	61	84	63	80	60	77	51	82	71	80	60	83	54	80	57	82	68	84	54	88	67	86	62	80	60
26....	87	69	84	61	84	64	83	62	71	56	84	69	82	64	89	66	80	58	83	70	82	61	80	70	76	65	79	63
27....	88	72	83	62	85	66	84	66	80	59	83	70	83	67	85	66	83	60	83	72	87	63	80	68	80	68	81	67
28....	90	72	86	68	88	66	84	70	83	60	84	73	87	69	86	68	86	60	84	76	85	67	83	71	82	70	84	70
29....	90	72	83	67	86	66	81	69	84	65	84	76	86	69	82	74	82	67	83	72	79	76	87	69	74	72	80	69
30....	89	73	81	66	74	69	78	69	75	66	82	70	73	69	81	69	84	69	88	72	85	70	82	68	83	72	74	68
Mns..	87.4	70.9	82.0	61.7	83.5	64.3	81.4	64.1	79.7	60.7	83.1	70.1	81.7	65.5	84.8	64.2	84.0	63.2	84.9	69.7	85.4	64.1	86.0	65.9	86.1	65.3	81.0	64.8

[a], [b], [c], etc., indicate respectively 1, 2, 3, etc., day missing from the record.
§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.

CLIMATOLOGICAL DATA FOR SEPTEMBER, 1913.

DISTRICT NO. 3, OHIO VALLEY.

Prof. FERDINAND J. WALZ, District Editor.

GENERAL SUMMARY.

The most important features of the weather conditions prevailing in the Ohio Valley during September, 1913, were: First, the remarkably high temperatures that obtained during the first week and which were a continuation of the intense heat wave that had prevailed with but little interruption since the middle of June; second, the unseasonably cool weather in the early part of the second decade when frosts and freezing temperatures were reported from much of the district, but mainly over the northeastern and eastern sections, with a trace of snow in a few places; third, the general rains during the third week and last two days of the month which effectually broke the long and severe drought; and, fourth, the unusually small number of local storms.

The rains during the latter half of the month were helpful to very late crops such as potatoes, and for putting the soil in condition for fall seeding, yet they were not sufficient to provide much surplus and in consequence streams and water sources were only temporarily affected and at the end of the month there was still a scarcity, and the necessity for hauling water for stock, railroads, and factories continued over large areas in the central portion of the district.

Except for shallow troughs of low pressure passing over the district about the 12th, 16th–18th, 20th, and 29th–30th, high pressure areas largely dominated conditions during the month. The rainfall of the third week was due mainly to a storm which moved from the Gulf region up the Mississippi Valley, the main center of action being to the west of the Mississippi River.

The following table summarizes the chief features of meteorological interest for the several sections of the district:

Portions of States included in the Ohio River Basin.	Temperature.				Precipitation.						
	Average.	Departure.	Highest.	Lowest.	Average.	Departure.	Greatest monthly.	Least monthly.	Greatest in 24 hours.	Average number of days.	Average snowfall.
New York	60.0	−0.4	92	23	1.64	−1.42	1.79	1.47	0.79	6	0
Pennsylvania	62.1	−1.7	97	24	2.63	−0.46	6.15	1.24	3.10	8	0
Maryland	58.8	−2.3	90	22	3.08	+0.59	4.02	2.25	1.13	8	T.[1]
West Virginia	64.5	−2.4	100	25	2.89	−0.04	8.89	0.86	2.40	8	T.
Ohio	64.5	−1.5	102	26	2.43	−0.31	5.19	0.99	2.20	9	T.
Indiana	66.6	−0.6	106	26	3.01	+0.62	7.27	1.34	2.18	9	T.[1]
Illinois	68.6	−0.5	109	34	3.44	+0.36	4.65	1.74	2.50	9	0
Kentucky	69.6	−0.3	106	29	2.49	−0.43	4.57	1.27	2.18	9	0
Tennessee	70.8	+0.4	106	29	3.12	−0.14	6.37	0.80	3.30	8	0
Alabama	72.0	−1.0	103	34	4.45	+0.88	6.68	2.67	4.90	9	0
Georgia	67.6	.....	90	41	1.82	.....	.....	.....	1.72	7	0
North Carolina	63.0	−2.3	91	29	5.44	+1.25	9.79	2.88	2.65	11	0
Virginia	61.6	−2.7	89	29	3.48	+0.23	4.63	2.51	1.98	9	0

[1] Trace at one station.

TEMPERATURE.

The temperature averaged below normal over the eastern portion of the district from western Pennsylvania southward to North Carolina. It was also below normal over sections of Ohio. It was slightly above normal over most of Tennessee and near normal over the rest of the district. The extremes of temperature were remarkable. In several of the States the range in temperature was between 70°and 80° and from several degrees below freezing to 100° or more, the extreme range for the month in the district being 87° or from 109° at Equality, Ill., on the 3d to 22° at Deer Park, Md., on the 23d.

In western Pennsylvania the month was the coolest September since 1899, and over western New York, western Maryland, West Virginia, southwestern Virginia, western North Carolina, and northern Georgia, the month in the main was unseasonably cool. Over the district as a whole the first week was intensely warm while the second and third decades, except the last two days, were unseasonably cool. During the first week temperatures were remarkably high, maxima of 100° and over being registered on one or more days from Tennessee northward to the north border. Maximum temperature records for September were broken at quite a few stations in Ohio, Indiana, Illinois, and Kentucky, and the week as a whole was probably one of the warmest ever experienced in the district in September. Maximum readings of 106° at Earlington, Ky., and Rome, Ind., are the record high temperatures for September for both of those States. During the first eight days departures in temperature ranged from +3° to +16° over practically all the district, while over the sections south of the Ohio River plus departures continued three days longer.

A rapid change to cooler weather set in about the 12th and during the rest of the month, except the last two days, and over limited areas in the central and northern portions of the district about the 18th and 24th, the temperatures were below normal, the departures ranging from −1° to −21°. There were three distinct cool periods, the first about the 13th–14th which was more pronounced in the northern portion of the district; the second and most severe the 21st–23d, the third about the 26th–28th.

Frosts and freezing temperatures were reported quite generally in the period 21st–23d, and minimum temperatures nearly as low as any that have ever been experienced in September were recorded. The estimates of damage by frost vary decidedly in different localities. In some sections, particularly Ohio, much damage to late corn and vegetables was reported, but these crops were not killed in most places, although temperatures were several degrees below freezing, a dense fog protecting the crops especially along the Ohio River and other streams. In Tennessee there was considerable damage done to

tobacco in lowlands, also to late hay, peas, and beans. In Indiana considerable damage was reported from some localities, but others report that the frost was beneficial, as it served to hasten the ripening of the corn crop. The frost in other sections seems to have been light and to have caused little or no damage of consequence.

PRECIPITATION.

During the first half of the month rainfall over the district was decidedly scattered and local. There were good rains in western North Carolina during the first week and over the northeastern portions of the district in the period 7th–9th and on the 12th, but the first general rains of consequence began about the 15th and continued during practically the entire week from the 15th to the 22d These were the first rains to materially affect the long drought which had prevailed since April. Generous rains also occurred on the 29th and 30th, being heavy over Tennessee and the southern border sections.

The total rainfall of the month varied decidedly in each of the sections, but in the main the monthly amounts ranged between 2 and 4 inches. Over southwestern Virginia, the mountain sections of North Carolina, and in northeastern Alabama the rainfall, however, was considerably larger, ranging from 4 to 9.5 inches. The heaviest fall in the district was 9.79 inches at Rock House, N. C., while at Huntingburg, in southern Indiana, there was a total rainfall of 7.27 inches. At one station in West Virginia, one in western Pennsylvania, one in western West Virginia, and one in extreme southwestern Tennessee the rainfall was in excess of 6 inches. On the other hand, there were limited areas in nearly all sections from Tennessee northward where the rainfall of the month was less than 2 inches, the notable exception being Illinois.

Snow flurries occurred at a few places in northeastern Ohio, in the northern portion of West Virginia, and in western Maryland on the 22d.

MISCELLANEOUS.

September 5.—Several residences were struck by lightning at Newport, Tenn., and one man was killed in one of the residences. Several persons were badly injured by lightning in various places.

September 6.—Lightning struck and killed a team of horses near Mount Vernon, Ind., and badly injured the driver.

September 7.—A barn and other outbuildings were struck by lightning and burned near Perrysville, Ind. The barn was full of hay, which was destroyed, together with harness, implements, and several head of stock, including a valuable horse. Lightning struck and damaged the power plant of the Trumbull Public Service Co. and several residences at Warren, Ohio. High wind did considerable damage at the Canfield Fair Ground in the same locality.

September 8.—A barn containing 80 tons of hay and a large amount of grain was struck by lightning and destroyed in Wayne County, Ohio. Also several barns were destroyed and three churches and several residences struck by lightning and damaged in Stark County, Ohio.

September 30.—A barn with all its contents was destroyed by lightning in Ashland County, Ohio.

RIVERS.

The rivers and streams were all at low stages throughout the month. Navigation was suspended the entire month in the Cumberland and Tennessee Rivers, except where made navigable by locks and dams. Also navigation was practically suspended in the Ohio River between Paducah and Evansville, only small boats being able to run. There were many bars in the Ohio River, where it is not improved, which were difficult to cross even in small boats. The streams in the upper Ohio Basin were at comparatively low stages during the first three weeks of the month but rose to moderate stages following the week of general rains.

TABLE 1.—*Climatological data for September, 1913. District No. 3, Ohio Valley.*

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Sky.				Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
New York.																				
Allegany	Cattaraugus	1,441	7	60.2	.....	92	3	25	14	50	1.79	.....	0.79	0	6	10	11	9	nw.	C. E. Whitney.
Bolivar	Allegany	1,800	19	58.8	− 0.4	92	7	23	14	49	1.65	− 1.42	0.67	0	5	11	9	10	w.	C. F. Hoffman.
Olean	Cattaraugus	1,402	5	.....	.....	.....	.....	.....	.....	.....	1.47	.....	0.55	0	6	.....	.....	.....	.....	John W. Alles.
Pennsylvania.																				
Aleppo	Green	1,135	12	62.2	− 2.9	97	5	28	23	46	2.85	+ 0.43	0.60	0	8	17	2	11	se.	J. S. Hinerman.
Baldwin	Butler	1,404	7	61.6	.....	92	3	32	14	42	1.50	.....	0.70	0	6	18	7	5	e.	S H. Templeton.
Beaver Dam	Beaver	674	19	.....	.....	.....	.....	.....	.....	.....	1.85	− 0.65	0.48	0	10	7	1	22	.....	U. S. Engineer.
Brookville	Jefferson	1,173	22	61.4	.....	95	3†	27	23†	51	1.57	− 1.70	0.80	0	7	.....	.....	.....	.....	H. C. Bartholomew.
Clarion	Clarion	1,078	28	.....	.....	.....	.....	.....	.....	.....	1.27	− 2.31	0.51	0	6	17	1	12	.....	N. A. Goble.
Claysville	Washington	1,127	9	63.4	.....	97	6	28	23	46	2.49	.....	1.03	0	8	13	11	6	w.	E. T. Buchanan.
Confluence	Somerset	1,352	29	.....	.....	.....	.....	.....	.....	.....	3.39	+ 0.53	0.98	0	7	6	8	16	.....	Grant Pyle.
Franklin	Venango	955	38	62.0	− 1.7	93	2†	31	23	48	1.67	− 2.05	0.74	0	5	13	6	11	sw.	F. E. Dixon.
Freeport	Armstrong	772	40	.....	.....	.....	.....	.....	.....	.....	2.77	+ 0.07	1.03	0	8	9	3	18	.....	Mrs. Anna R. Burtner.
Greensboro	Green	768	24	.....	.....	.....	.....	.....	.....	.....	1.90	− 0.94	0.62	0	6	15	3	12	sw.	James G. Cramer.
Greensburg	Westmoreland	1,100	6	62.8	.....	92	6	31	23	38	3.66	.....	1.29	0	10	14	10	6	sw.	Westmoreland Water Co.
Greenville	Mercer	950	17	61.2	− 0.8	94	2	27	14	47	1.33	− 1.94	0.53	0	11	18	4	8	nw.	A. M. Orr.
Indiana	Indiana	1,350	16	63.6	− 1.0	96	3	31	22	44	3.54	− 0.57	1.19	0	8	18	4	8	s.	R. W. Wehrle.
Johnstown	Cambria	1,184	25	63.2	− 2.2	97	6	33	23†	44	4.04	+ 0.81	2.00	0	10	9	13	8	s.	E. C. Lorentz.
Lock No. 4	Washington	718	27	.....	.....	.....	.....	.....	.....	.....	1.79	− 0.91	0.75	0	8	13	2	15	sw.	R. T. McGowan.
Lycippus	Westmoreland	1,420	21	63.0	− 3.7	87	2	34	23	29	3.46	+ 0.19	1.48	0	8	.....	.....	.....	.....	Murray Forbes.
Mosgrove	Armstrong	775	2	.....	.....	.....	.....	.....	.....	.....	1.48	.....	0.41	0	10	13	0	17	sw.	C. J. Moore.
Pittsburgh	Allegheny	842	43	65.0	− 1.1	92	6	38	23	32	2.86	+ 0.38	1.48	0	11	13	9	8	sw.	U. S. Weather Bureau.
Punxsutawney	Jefferson	.....	0	59.8	.....	94	6	26	23†	55	3.57	.....	.....	0	8	15	5	10	ne.	Samuel M. Rosenthal.
Ridgway	Elk	.....	0	60.0	.....	91	6	28	23†	48	3.05	.....	1.36	0	6	18[c]	0[c]	9[c]	.....	F. J. Eagen.
Saegerstown	Crawford	1,116	22	59.6	− 2.3	91	2†	24	14	45	2.63	− 1.23	1.55	0	8	7	12	11	w.	J. G. Apple.
Sharon	Mercer	940	2	62.6	.....	92	2†	30	23	43	1.36	.....	0.37	0	7	11	7	12	se.	Norman S. Powell.
Somerset	Somerset	2,250	57	60.1	− 0.5	93	2†	28	23	47	6.15	+ 3.04	3.10	0	8	9	11	10	nw.	W. M. Schrock.
Uniontown	Fayette	999	25	65.4	− 0.6	94	6	34	23	40	2.99	− 0.10	1.11	0	8	20	1	9	ne.	Wm. Hunt.
Warren	Warren	1,137	24	60.5	− 1.4	94	3	27	14	49	2.54	− 1.24	1.20	0	5	22	0	8	nw.	Anna Simpson.
Maryland.																				
Deer Park	Garrett	2,457	20	58.3	− 2.0	90	5†	22	23	46	2.97	+ 0.68	1.06	T.	10	.....	.....	.....	.....	S. P. Specht.
Grantsville	.....do	2,351	20	59.6	− 2.1	90	6	28	23	44	4.02	+ 1.61	1.13	0	8	9	13	8	.....	J. S. Miller.
Oakland	.....do	2,461	14	58.6	− 2.8	90	6	24	23	48	2.25	− 0.53	0.90	0	7	11	12	7	w.	R. E. Weber
West Virginia.																				
Bancroft	Putnam	574	10	69.5	− 0.4	100	6	39	23	46	2.75	+ 0.08	0.60	0	6	11	1	18	ne.	R. E. Dent.
Beckley	Raleigh	2,440	14	59.8	− 4.0	88	11	25	22	46	2.22	+ 0.02	1.60	0	2	20	3	7	w.	John A. Ewart.
Bens Run	Pleasant	622	12	64.3	− 4.4	94	3	38	23	40	2.54	+ 0.23	0.80	0	8	20	3	7	.....	J. D. Riggs.
Bluefield	Mercer	2,563	19	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Norfolk & Western Ry.
Buckhannon	Upshur	1,472	23	62.4	− 2.6	90	7	30	23	41	2.04	− 1.12	1.00	0	6	18	4	8	.....	H. A. Darnall.
Cairo	Ritchie	667	11	65.5	− 2.8	97	7	33	23	41	4.51	+ 2.10	0.95	0	10	7	15	8	w.	Van A. Zevely.
Central Station	Doddridge	900	11	61.7[a]	.....	96	.....	30	23	51[a]	2.39	− 0.68	0.72	0	.....	4[a]	6[a]	6[a]	.....	G. W. Sherwood.
Charleston	Kanawha	598	28	69.6	− 1.3	92	2†	42	23	33	3.95	+ 1.09	1.60	0	10	15	4	11	w.	R. C. Hewes.
Creston	Wirt	612	12	65.8	− 2.0	92	5	34	23	48	1.96	− 0.50	0.62	0	11	15	5	10	sw.	J. M. Reed.
Cuba	Jackson	544	13	65.4	− 2.1	95	2†	30	23	42	4.03	+ 1.89	1.32	0	10	10	14	6	ne.	C. T. Perry.
Doane	Wayne	.....	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. A. Smith.
Elkhorn	McDowell	1,933	21	65.0	− 1.6	87	2†	32	23	37	2.57	− 0.27	1.01	0	7	15	9	6	ne.	J. J. Lincoln.
Elkins	Randolph	1,940	14	61.8	− 0.2	90	6	31	23	44	5.09	+ 2.22	1.91	0	9	10	10	10	w.	U. S. Weather Bureau.
Fairmont	Marion	879	21	65.0	.....	99	2†	33	23	49	2.30	− 0.38	0.54	0	11	20	1	9	w.	F. P. Hall.
Glenville	Gilmer	738	24	65.8	− 2.0	93	6	35	23	41	2.28	− 1.10	0.76	0	7	15	7	8	n.	Joe N. Craddock.
Grafton	Taylor	985	21	64.8	− 2.0	97	6†	33	22	43	2.60	− 0.35	1.12	0	6	22	0	8	w.	Joseph Gerken.
Green Sulphur Springs	Summers	1,600	18	63.4	− 3.1	91	1†	31	23	45	2.78	+ 0.60	1.55	0	7	10	11	9	w.	Arthur George.
Hinton	.....do	1,400	24	65.7	− 2.8	95	6	39	23	41	3.16	+ 0.42	1.44	0	11	5	3	22	sw.	J. B. Lavender, C. E.
Holcomb	Nicholas	.....	1	60.9[a]	.....	90[a]	7	31	23	42	4.80	.....	.....	0	11	15	3	12	.....	R. E. Ferguson.
Huntington	Cabell	510	18	66.8	− 2.2	93	1†	38	23	40	2.66	+ 0.35	0.94	0	8	16	3	11	.....	L. H. Hutchinson.
Lewisburg	Greenbrier	2,200	13	61.6	− 3.6	88	7	29	23	41	2.20	− 0.57	0.82	0	7	21	5	4	ne.	Geo. T. Argabrite.
Logan	Logan	665	11	70.6	+ 1.2	94	6	41	23	35	2.10	− 1.07	0.85	0	8	15	9	6	w.	Dr. J. E. McDonald.
Lost Creek	Harrison	1,033	17	61.6	− 4.1	94	6	25	23	47	1.59	− 1.45	0.52	0	6	20	1	9	w.	Allen Smith.
Madison	Boone	704	8	65.4[b]	.....	98[a]	6	36[b]	23	52[c]	2.17	.....	1.00	0	8	14[a]	15[a]	0[a]	.....	S. E. Bradley.
Mannington	Marion	967	11	62.8	− 3.5	94	6	31	23	44	2.28	− 1.12	0.73	0	11	17	3	10	w.	Jas. A. Morgan.
Marlinton	Pocahontas	2,169	17	58.0[c]	− 4.9	84	6	30	22†	38[c]	.....	.....	.....	0	.....	.....	.....	.....	.....	C. J. McCarty.
Morgantown	Monongalia	1,250	39	65.6[b]	− 2.3	96[b]	6	41[b]	14[b]	35[b]	1.67	− 1.50	0.77	0	5	7[a]	18[a]	4[a]	s.	Horace Atwood.
Moundsville	Marshall	640	11	65.7	− 2.3	98	6	31	23	46	2.15	− 0.44	0.58	0	10	17	7	6	w.	M. L. Brown.
New Cumberland	Hancock	987	14	63.5	− 2.5	94	6	31	23	48	2.05	− 0.49	1.15	0	5	13	7	10	s.	Frank S. Evans.
New Martinsville	Wetzel	634	20	66.3	− 2.7	99	6	39	23	41	4.57	+ 1.94	2.40	0	9	17	2	11	s.	Wm. Ankrom.
Nuttallburg	Fayette	2,252	21	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Miss Donna Tully.
Parkersburg	Wood	638	26	66.4	+ 0.2	94	6	37	23	38	2.96	+ 0.24	1.09	0	10	16	5	9	se.	U. S. Weather Bureau.
Parsons	Tucker	1,662	14	61.6	− 2.3	90	6	33	23	43	3.05	− 0.18	1.00	0	7	16	2	12	.....	J. W. Swisher.
Philippi	Barbour	1,192	21	63.4	− 2.5	94	6	30	23	48	2.25	− 1.05	0.74	T.	11	14	8	8	w.	J. D. Dadisman.
Pickens	Randolph	2,785	23	59.9[a]	− 2.2	8.3[a]	6[a]	34[a]	23	34[a]	8.89	+ 3.15	3.60	0	6	15[a]	5[a]	9[a]	w.	Dr. J. L. Cunningham.
Point Pleasant	Mason	553	23	67.0	− 3.0	97	2†	33	23	45	1.94	− 0.30	0.50	0	11	15	4	11	se.	W. D. Holmes.
Powellton	Fayette	904	16	66.2	− 1.1	93	4†	34	23	41	4.22	+ 1.44	1.71	0	8	13	9	8	.....	Morris Hansford.
Princeton	Mercer	2,469	13	58.4	− 3.8	80	6	30	23	33	4.30	+ 0.44	2.00	0	7	10	9	11	s.	H. Scott.
Robertsburg	Putnam	574	13	66.0	− 3.0	98	6	35	23	49	1.45	− 0.98	0.40	0	5	15[a]	2[a]	12[a]	.....	E. P. Turley.
Ryan	Roane	639	10	64.6	− 2.4	96	6	32	23	46	3.36	+ 0.96	0.95	0	12	17	4	9	.....	Wm. E. Ryan.
Smithfield	Wetzel	919	9	61.8	.....	94	3	34	16	44	3.23	.....	0.76	0	11	12	6	12	w.	G. M. Whisler.
Spencer	Roane	710	15	64.3	.....	94	5	30	23	50	0.86	− 2.31	0.60	0	2	9	7	14	.....	A. M. McKown.
Sutton	Braxton	839	10	72.9[c]	.....	97	5†	39	24	44[c]	2.32	− 0.96	1.00	0	6	10[c]	11[c]	6[c]	.....	Ben Gillespie.
Terra Alta	Preston	3,207	13	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Wm. R. Shaw.
Union	Monroe	.....	9	62.4	− 2.8	90	5†	30	23	44	2.47	0	1.25	0	8	.....	.....	.....	.....	Shelton Clark.
Valley Fork	Clay	.....	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Miss Blanche Pierson.
Webster Springs	Webster	1,500	.....	62.6	.....	90	5†	34	23	41	6.38	.....	2.18	0	12	7	13	10	sw.	D. H. Hamrick.
Wellsburg	Brooke	1,225	19	62.8	− 2.4	87	2†	33	23	29	3.11	+ 0.17	1.45	0	9	14	7	9	sw.	C. P. Waugh.
Weston	Lewis	824	25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Miss C. M. Davis.
Wheeling	Ohio	645	29	64.4	.....	95	6	34	25	47	2.55	− 0.05	1.50	T.	11	19[a]	2[a]	8[a]	sw.	Miss M. B. Forsyth.
Williamson	Mingo	660	12	66.1	− 4.5	92	2	40	23	39	2.38	− 0.56	0.78	0	7	12	7	11	w.	J. F. Keyser.

TABLE 1.—*Climatological data for September, 1913. District No. 3*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees, Fahrenheit.							Precipitation, in inches.				Number of rainy days, 0.01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Ohio.																				
Amesville	Athens	630	9	65.2	.....	98	6	31	23	47	2.79	.....	0.81	0	9	15	6	9	.....	F. W. Gibson.
Ashland	Ashland	1,079	13	64.0	− 0.2	97	2	30	23	46	1.75	− 0.79	0.45	T.	10	13	0	17	s.	S. W. Brandt.
Bangorville	Richland	1,380	26	63.7	− 1.3	96	2	28	23	37	2.41	− 0.72	0.88	0	7	13	11	6	sw.	S. M. Painter.
Bellefontaine	Logan	1,276	34	64.0	− 2.2	98[a]	3	28	23	42[a]	2.03	− 0.79	0.43	0	8	.....	.....	.....	.....	Cory L. Lane.
Bladensburg	Knox	1,100	20	59.8	− 5.0	90	2†	28	23	41	2.48	− 0.29	1.68	0	7	7	18	5	ne	Miss Mary Elliott
Brilliant	Jefferson	700	....	63.4	.....	91	1†	35	19	38	3.00	.....	2.00	0	6	13	8	9	s	Mrs. Mary K. Pennell.
Cadiz	Harrison	1,245	9	63.8	.....	93	6	32	23	41	2.93	.....	1.92	0	5	16	5	9	se.	Harry B. McConnell.
Cambridge	Guernsey	803	21	63.3	− 2.1	93	2	28	23	39	1.86	− 0.74	0.50	0	8	12	13	5	.....	Samuel Mehaffey.
Camp Dennison	Hamilton	570	20	67.0	− 2.1	101	1†	30	23	46	2.30	+ 0.08	0.72	0	9	12	11	7	se.	Henry F. Pinkvoss.
Canal Dover	Tuscarawas	884	20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Francis L. Bixler
Canton	Stark	1,089	30	63.1	− 1.0	95	2	31	23	43	5.11	+ 2.19	1.85	0	12	12	7	11	sw.	Carl H. Meyer.
Cardington	Morrow	1,010	18	63.6[b]	− 2.3	94[b]	3	30[b]	23	37[b]	2.30	− 0.94	0.81	0	6	17	0	13	sw.	J. W. Shaw.
Chillicothe	Ross	630	10	.....	.....	.....	.....	.....	.....	.....	2.53	.....	1.58	0	10	.....	.....	.....	.....	Marion Mackey.
Cincinnati	Hamilton	628	42	68.4	− 0.6	97	1	40	23	33	1.86	− 0.45	0.99	0	11	9	7	14	se.	U. S. Weather Bureau.
Circleville	Pickaway	694	25	65.9	− 2.1	99	2†	30	23	43	2.09	− 0.27	0.63	0	10	17	1	12	s.	Dr. H. R. Clarke.
Clarington	Monroe	600	10	65.2	− 2.9	99	6	34	23	43	2.93	+ 0.20	1.30	0	8	7	13	10	.....	Col. S. Tschappat.
Columbus	Franklin	918	35	65.4	− 0.5	94	2	36	23	32	3.28	+ 0.76	1.58	0	12	12	4	14	se	U. S. Weather Bureau.
Coshocton	Coshocton	770	4	.....	.....	.....	.....	.....	.....	.....	2.33	.....	1.25	0	9	.....	.....	.....	.....	Mrs. Ada Jeffries.
Dayton (1)	Montgomery	899	2	65.8	− 1.0	98	2	34	23	35	2.31	− 0.19	0.51	0	13	9	9	12	ne.	U. S. Weather Bureau.
Dayton (2)	....do	790	32	66.4	− 1.0	101	2†	29	23	43	2.36	− 0.28	0.82	0	12	.....	.....	.....	.....	Mrs. Edith E. L. Boyer.
Delaware	Delaware	896	16	64.1	− 2.0	97	3	28	23	48	2.55	− 0.30	0.97	0	13	17	5	8	s.	Dewitt H. Leas.
Demos	Belmont	1,325	25	66.2	+ 0.4	99	6	36	23	41	1.92	− 0.94	0.64	0	10	19	6	5	s.	J. T. Dysart.
Dennison	Tuscarawas	846	3	64.8	.....	97	2†	32	23	44	5.19	.....	1.80	0	8	18	7	5	n.	Water Supply Co.
Frankfort	Ross	745	21	66.8	− 0.4	96	2	34	22	39	2.10	− 0.38	0.60	0	7	13	1	16	s.	O. A. Cory.
Gallipolis	Gallia	580	1	.....	.....	.....	.....	.....	.....	.....	1.91	.....	0.61	0	9	.....	.....	.....	n.	Samuel F. Neal.
Garrettsville	Portage	1,005	29	62.6	+ 1.1	93	3	29	14†	45	1.64	− 1.81	0.56	0	12	13	8	9	ne.	S. M. Luther.
Granville	Licking	960	31	63.8	− 1.8	94	3†	30	23	45	3.01	+ 0.12	1.19	0	10	18	0	12	sw.	Dr. L. E. Davis.
Gratiot	....do	1,000	24	63.1	− 2.4	88	2	31	23	36	2.78	+ 0.02	1.08	0	8	11	12	7	sw.	W. B. Longstreth
Green	Adams	500	20	66.8	− 1.9	98	1	35	23	44	2.12	− 0.56	0.62	0	5	15	3	12	e.	W. F. Kenyon.
Green Hill	Columbiana	1,135	20	60.4	− 2.8	92	2	26	23	43	1.83	− 0.87	0.51	0	8	15	8	7	sw.	Jos. E. Bentley
Greenville	Darke	1,060	27	64.0	− 0.6	97	3	32	23	41	1.85	− 0.77	0.54	0	13	12	6	12	se	Geo. A. Katzenberger.
Hamilton	Butler	601	1	65.4	.....	102	2	30	23†	50	1.66	.....	0.56	0	6	19	4	7	.....	Earl W. Stout.
Haydenville	Hocking	700	1	63.6[d]	.....	93[d]	3†	30[d]	23	40[d]	2.31	.....	1.22	0	6	.....	.....	.....	.....	H. W. Stiers.
Hillsboro	Highland	1,063	34	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Carey H. Roush.
Ironton	Lawrence	575	30	67.5	− 0.5	99	6	33	23	45	3.19	+ 0.54	1.20	0	8	12	10	8	sw.	James Bull.
Kenton	Hardin	1,015	21	63.2[a]	− 3.6	97	2	28	22	45	1.08	− 1.17	0.30	0	7	17	6	7	se.	Frank B. Rarey.
Killbuck	Holmes	1,087	20	65.2	+ 0.3	95	2	28[a]	23	40[a]	2.28	− 0.51	0.70	0	9	24	2	4	ne.	John A. Schonauer.
Kings Mills	Warren	640	1	.....	.....	.....	.....	.....	.....	.....	2.12	.....	0.40	0	12	17	6	7	sw.	Frank M. See.
Lancaster	Fairfield	898	18	64.0	− 2.4	93	6	31	23	38	2.71	+ 0.43	1.31	0	8	17	4	9	nw.	R. L. Renshaw.
McConnellsville	Morgan	710	29	63.6	− 2.9	93	6	33	23	37	3.04	+ 0.20	1.10	0	10	10	11	9	sw.	C. H. Morris.
Marietta	Washington	627	93	65.3	− 0.2	94	6	34	23	35	2.91	− 0.23	0.93	0	10	11	7	12	n.	Prof. T.D. Biscoe.
Marion	Marion	980	35	63.7	− 2.9	98	3	29	23	37	2.93	− 0.10	0.90	0	8	12	10	8	se.	Dr. E. H. Raffensperger.
Millfordton	Knox	1,200	21	63.8	− 1.4	97	2†	27	23	47	1.77	− 0.92	0.54	T.	8	19	5	6	ne.	L. H. Burgess.
Milligan	Perry	875	20	64.7	− 1.5	97	2†	27	23	50	2.34	+ 0.13	0.70	0	9	12	11	7	sw.	V. C. Eveland.
Millport	Columbiana	1,145	20	61.1	− 2.6	91	2†	27	23	43	2.14	− 0.27	0.68	0	9	10	13	7	w.	G. F. Copeland.
Nellie	Coshocton	850	13	62.4	− 3.0	95	6	29	23	44	2.16	− 0.38	1.05	0	7	14	13	3	w.	Ethel L. Gamertsfelder.
New Berlin	Stark	1,100	20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Clayton Holl.
New Waterford	Columbiana	1,053	18	63.1	− 0.7	99	2†	31	23	48	2.18	− 0.24	1.20	0	7	13	12	5	sw.	Sam C. Scott.
Ohio State University	Franklin	757	30	64.0	− 1.6	96	2	30	23	39	1.88	− 0.80	0.74	0	9	.....	.....	.....	se.	Prof. H. C. Lord.
Oregonia	Warren	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. H. Stephens.
Pataskala	Licking	1,015	21	64.4	− 1.8	96	6	29	23	42	4.70	+ 1.59	1.53	0	12	10	12	8	e.	J. N. Ridenour.
Peebles	Adams	645	2	66.0	.....	100	2	29	23	48	2.32	.....	0.75	0	10	14	1	15	nw.	Ora O. Smalley.
Philo	Muskingum	1,018	18	64.9	− 2.5	93	6	32	23	35	2.18	− 0.27	0.66	0	7	13	12	5	s.	L. C. Burckholter.
Piqua	Miami	847	3	.....	.....	.....	.....	.....	.....	.....	2.14	.....	0.45	0	10	13	3	14	se.	Harry L. Roberts.
Plattsburg	Clark	1,130	20	65.2	+ 1.6	98	3	30	23	34	1.86	− 0.74	0.73	0	6	14	5	11	s.	F. E. Stewart.
Portsmouth	Scioto	527	82	66.2	+ 1.6	99	1	34	23	45	2.56	− 0.13	0.78	0	8	10	1	19	sw.	Dr. H. A. Schirrmann.
Prospect	Marion	909	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Neil J. Gast.
Sidney	Shelby	985	30	65.8	− 0.2	99	2†	28	23	42	1.59	− 1.43	0.78	0	7	14	4	12	sw.	Hamline B. Blake.
Somerset	Perry	1,080	14	64.8	− 2.9	93[a]	2†	35	23	35[a]	2.35	+ 0.11	0.63	0	12	14	9	7	e.	Miss M. W. C. Sheridan.
Springfield	Clark	980	19	.....	.....	.....	.....	.....	.....	.....	1.56	− 1.62	0.32	0	10	9	15	6	s.	W. A. Webster.
Summerfield	Noble	1,187	7	63.4	.....	95	1†	29	23	43	3.17	.....	1.15	0	11	11	13	6	sw.	H. R. McClintock.
Syracuse	Meigs	583	2	67.0	.....	98	6	34	23	47	2.10	.....	0.69	0	7	16	7	7	.....	Irving R. Karr.
Thurman	Gallia	696	20	66.5	− 3.4	96	2	33	23	39	2.35	+ 0.57	1.50	0	5	11	8	11	.....	D. D. Thomas.
Toboso	Licking	.....	.....	61.8	.....	94	6	26	23	44	2.29	.....	1.50	0	4	14	6	10	sw.	H. A. Albyn.
Urbana	Champaign	1,031	45	66.3	+ 1.1	101	2†	29	23	46	2.09	− 1.10	0.71	0	8	11	15	4	s.	Prof. J. H. Williams.
Warren	Trumbull	900	24	62.6	− 1.7	96	2	31	14†	43	2.32	− 0.85	1.02	0	8	17	5	8	sw.	M. D. McCorkle.
Waverly	Pike	590	30	64.8	− 3.5	96	6†	30	23	43	2.19	− 0.43	0.70	0	12	9	1	20	w.	Dr. Peru Hutt.
Waynesville	Warren	700	28	65.5	− 1.3	97	3	31	23	33	3.27	+ 0.78	1.32	0	8	13	10	7	se.	Charles Michener.
Wooster	Wayne	1,030	34	62.5	− 1.4	93	2†	28	23	44	3.70	+ 0.26	2.20	0	9	16	5	9	sw.	Experiment Station.
Youngstown	Mahoning	846	20	.....	.....	.....	.....	.....	.....	.....	0.99	− 1.89	0.42	0	8	9	10	11	se.	J. M. Dickey.
Zanesville	Muskingum	700	26	.....	.....	.....	.....	.....	.....	.....	2.69	+ 0.17	0.80	0	13	15	2	13	w.	S. G. Sprague.
Indiana.																				
Anderson	Madison	892	18	65.0	− 1.8	97	2	30	23	42	1.34	−·1.70	0.42	0	6	15	3	12	s.	W. H. Stanton.
Attica	Fountain	522	3	.....	.....	.....	.....	.....	.....	.....	3.31	.....	1.50	0	11	.....	.....	.....	.....	J. Frederic Connell.
Bloomington	Monroe	744	18	66.5	− 1.8	102	3	35	23	43	3.05	+ 0.36	0.70	0	11	10	8	12	se.	Earl E. Ramsey.
Bluffton	Wells	835	18	64.2	− 1.5	98	2	31	23	36	1.79	− 1.54	0.56	0	9	15	7	8	sw.	George R. Rinehart.
Butlerville	Jennings	767	28	67.8	− 0.6	99	2	36	23	40	2.73	− 0.01	1.10	0	9	16	3	11	.....	C. F. Hole.
Cambridge City	Wayne	941	22	63.7[a]	− 1.3	101[a]	3	28	23	43[a]	3.01	− 0.35	1.40	0	7	15	0	15	s.	Heze Barnett.
Columbus	Bartholomew	632	30	72.0[n]	.....	102[n]	2	66[n]	13	42[n]	.....	.....	.....	0	.....	.....	.....	.....	.....	John A. Perry.
Connersville	Fayette	769	31	67.4	+ 1.8	103	2	29	23	44	1.61	− 1.21	0.55	0	5	11	14	5	sw.	H. T. Swindler.
Crawfordsville	Montgomery	780	3	66.9	.....	101	2†	34	23	42	2.55	.....	0.95	0	6	11	8	11	sw.	P. H. Burns.
Delphi	Carroll	668	28	65.4	+ 0.4	102	2	32	23	42	2.30	− 0.68	0.51	0	8	12	8	10	.....	L. A. Higginbotham.
Evansville	Vanderburg	386	37	70.4	+ 0.7	99	3	43	22	32	4.31	+ 1.65	1.35	0	10	10	10	10	s.	U. S. Weather Bureau.
Farmersburg	Sullivan	.....	15	67.1	− 1.8	98	2	39	23	35	4.12	+ 1.62	1.63	0	10	5	18	7	nw.	Miss Carrie Yeager.
Farmland	Randolph	1,101	31	64.6	− 4.2	97	3	33	23	39	2.44	− 1.03	0.64	0	13	13	0	17	sw.	Ralph E. Lyst.
Forest Reserve	Clark	478	....	68.0	.....	101	2	33	23	44	3.91	.....	1.25	0	12	15	5	10	.....	Ambrose Waltman.
French Lick	Orange	506	....	67.5	.....	98	3	37	23	41	2.63	.....	0.81	0	11	12	11	7	sw.	U. S. Weather Bureau.
Greenfield	Hancock	905	10	66.4	.....	97	2	34	23	38	2.12	.....	0.55	0	5	0	20	10	se.	Frank Larrabee.
Greensburg	Decatur	954	17	67.4	− 1.2	99	3	36	23	36	3.45	+ 0.44	1.10	0	8	15	5	10	sw.	C. C. Morrison, M. D.
Hickory Hill	Brown	.....	....	68.8	.....	100	2	37	23	37	3.13	.....	1.39	0	7	14	2	14	.....	Benjamin W. Douglass.
Huntingburg	Dubois	462	5	70.6	.....	101	2	34	22	45	7.27	.....	2.18	0	10	.....	.....	.....	.....	H. Dufendach.
Huntington	Huntington	741	20	64.4	+ 2.5	98	2	31	23	36	2.14	− 0.91	0.58	0	8	14	6	10	e.	Chas. McGrew
Indianapolis	Marion	822	41	66.0	− 0.7	96	3	37	23	35	3.02	− 0.03	1.12	0	12	7	8	15	ne.	U. S. Weather Bureau.

TABLE 1.—*Climatological data for September, 1913. District No. 3*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, 0.01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
***Indiana*—Continued.**																				
Jeffersonville	Clark	455	31	69.8	+ 0.3	99	3	39	23	39	1.96	− 0.60	0.64	0	10	11	10	9	n.	John C. Loomis.
Judyville	Warren	450	6	65.7	.....	100	2†	33	23	43	3.44	.....	1.06	0	13	12	10	8	.....	W. A. Hill.
Kokomo	Howard	840	21	63.5	+ 1.0	98	2	29	23	42	1.69	− 1.02	0.75	0	10	11	11	8	ne.	P. H. Robertson.
La Fayette	Tippecanoe	617	34	65.6	− 0.4	99	3	38	23	37	1.97	− 0.90	0.54	0	11	18	6	6	ne.	Wm. J. Jones, jr.
Logansport	Cass	620	33	66.0[e]	0.0	102[i]	2	33	23	43[i]	2.94	− 0.13	0.80	0	7	12	2	16	w.	Chas. Massena.
Madison	Jefferson	460	21	70.2	− 0.4	102	3	37	23	43	2.85	− 0.28	1.09	0	9	9	16	5	sw.	Miss F. Cooperider.
Marengo	Crawford	363	31	67.6	− 1.3	100	2	40	25	38	5.04	+ 1.03	2.10	0	7	10	15	5	.....	J. M. Johnson.
Marion	Grant	814	27	66.4	+ 0.6	101	2	31	23	43	2.03	− 1.06	0.45	0	9	11	7	12	s.	James F. Hood.
Mauzy	Rush	980	33	63.9[e]	− 1.0	97[e]	2	29[e]	23	45[e]	2.49	− 0.40	0.56	0	8	12	5	13	sw.	Elwood Kirkwood.
Monticello	White	674	3	.....	.....	.....	.....	.....	.....	.....	2.31	.....	0.73	0	7	14	6	10	e.	J. E. Loughry.
Moores Hill	Dearborn	980	12	66.9	− 1.9	99	2	34	23	39	1.91	− 1.25	0.46	0	10	15	1	14	w.	W. S. Bigney.
Mount Vernon	Posey	410	27	68.8	− 1.9	98	3	39	22	34	4.13	+ 1.38	0.95	0	11	14	0	16	ne.	Guy B. Green.
Nashville	Brown	.....	.....	65.1	.....	97	3	32	23	49	2.09	.....	0.57	0	8	8	9	13	sw.	W. C. Goble.
Paoli	Orange	611	16	67.0	− 2.1	103	2	35	22	43	4.13	+ 0.75	1.37	0	10	12	9	9	ne.	James A. Gillum.
Princeton	Gibson	481	31	70.8	+ 2.1	**104**	2†	**35**	22	40	3.30	+ 0.11	1.01	0	7	15	3	12	sw.	Albert Mills.
Richmond	Wayne	972	28	64.8	− 0.9	98	3	30	23	41	2.58	− 0.12	0.94	0	12	10	14	6	.....	Walter Vossler.
Rochester	Fulton	775	8	63.2	.....	91	3	33	23	33	2.70	.....	0.78	0	6	20	3	7	s.	J. E. Troutman.
Rockville	Parke	722	27	67.6	+ 0.5	102	2†	36	27	39	3.38	+ 0.37	0.93	0	9	8	14	8	ne.	C. A. Lee.
Rome	Perry	370	10	71.4	+ 1.0	106	2	38	22	44	4.43	+ 0.92	1.69	0	13	14	4	12	.....	Adam Anspach.
Salamonia	Jay	950	8	63.2[a]	.....	99[a]	2	26[a]	23†	43	2.96	.....	2.02	0	8	9[a]	10[a]	10[a]	sw.	S. A. Armstrong.
Salem	Washington	717	20	68.7	0.0	105	2	37	23	46	3.35	+ 0.72	0.75	0	9	9	14	7	sw.	Emmet S. Allen.
Scottsburg	Scott	570	19	68.6	− 1.1	103	2	34	23	40	2.36	− 0.09	1.03	0	11	10	12	8	ne.	Frank H. Park.
Seymour	Jackson	610	26	63.4	− 4.7	102	2	33	23	45	2.39	− 0.51	0.69	0	12	12	12	6	sw.	J. Thomas Hays.
Shelbyville	Shelby	768	9	65.2	.....	100	2†	31	23	43	1.89	.....	0.65	0	9	7	19	4	sw.	Edgar G. Hodson.
Shoals	Martin	523	6	67.2	.....	99	2†	40	22†	40	2.77	.....	0.70	0	10	10	7	13	s.	Rev. G. Halleck Rowe.
Terre Haute	Vigo	498	23	68.0	− 1.4	98	3	39	23	37	3.78	+ 1.00	1.85	0	11	5	15	10	s.	U. S. Weather Bureau.
Veedersburg	Fountain	612	14	66.9	− 1.5	102	2†	36	27	39	3.79	+ 1.23	1.18	0	17	14	8	8	n.	L. A. Culver, jr.
Vevay	Switzerland	525	32	68.6	− 1.0	98	3	36	23	38	4.40	+ 1.45	1.75	T.	9	8	11	11	sw.	Miss Frederica Boerner.
Vincennes	Knox	431	21	70.2	− 0.5	105	2	40	22	38	4.40	+ 1.34	1.60	0	11	14	2	14	s.	Garrett V. List.
Washington	Daviess	484	17	70.2	+ 0.7	102	2†	41	23†	37	3.72	+ 0.46	0.83	0	9	12	8	10	nw.	Charles C. Feagans.
Whitestown	Boone	529	5	63.8	.....	96	2	35	23	39	1.56	.....	0.50	0	9	5	23	2	sw.	Clyde O. Laughner.
Winona Lake	Kosciusko	865	6	64.8	.....	100	2	29	23	38	2.49	.....	0.73	0	7	2	24	4	e.	Rev. Albert A. Young.
Worthington	Greene	526	31	67.4	+ 0.2	98	3	41	23	34	4.26	+ 1.30	1.17	0	8	4	17	9	se.	D. W. Solliday.
Illinois.																				
Albion	Edwards	531	22	70.2	+ 0.2	102	3	38	22	40	3.73	+ 0.60	1.54	0	10	17	6	7	s.	B. F. Michels.
Casey	Clark	645	10	.....	.....	.....	.....	.....	.....	.....	3.80	+ 0.96	2.24	0	6	10	14	6	se.	William Chenoweth.
Charleston	Coles	720	28	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacob B. Daisy.
Danville	Vermilion	604	12	67.1	− 0.7	101	2	36	23†	40	3.68	+ 0.33	1.75	0	11	14	6	10	ne.	J. J. Lemon.
Equality	Gallatin	421	15	72.3	+ 0.1	109	3	40	22	39	3.68	+ 0.39	1.20	0	8	16	5	9	n.	Dr. L. W. Gordon.
Fairfield	Wayne	450	20	70.4	+ 0.1	103[a]	3	35	22	36[a]	4.65	+ 1.24	1.59	0	10	16	2	12	ne.	George A. Tromly.
Flora	Clay	495	27	69.1	+ 0.8	104	3	34	22	41	3.77	+ 0.60	1.34	0	10	11	8	11	ne.	W. L. Hanna.
Golconda	Pope	500	35	71.8	+ 0.1	104	3	38[a]	22	41[a]	3.96	+ 0.80	1.90	0	9	13	8	9	sw.	Dr. D. Lawrence.
Hoopeston	Vermilion	715	11	65.5	− 0.6	99	2	34	23	43	2.44	− 1.07	0.81	0	12	15	10	5	.....	S. F. Hoskinson.
McLeansboro	Hamilton	462	30	69.2[d]	− 0.6	104[d]	3	42[e]	23	41[d]	4.03	+ 0.85	0.86	0	9	.....	.....	.....	.....	Thomas W. Biggerstaff.
Metropolis	Massac	346	2	.....	.....	.....	.....	.....	.....	.....	1.74	.....	0.55	0	8	16	4	10	.....	Henry H. Humma.
Montrose	Effingham	599	3	67.4	.....	102	3	34	22	40	2.30	.....	1.17	0	9	16	7	7	s.	J. C. Spittler.
Mount Carmel	Wabash	424	12	68.9	− 1.2	101	1†	39	22	38	2.88	− 0.50	0.69	0	10	.....	.....	.....	.....	Mrs. H. M. Phillips.
New Burnside	Johnson	613	18	69.5	− 2.4	102	4	37	23	41	4.01	+ 0.95	2.11	0	10	18	0	12	se.	Thomas H. McCabe.
Newton	Jasper	484	2	.....	.....	.....	.....	.....	.....	.....	2.56	.....	1.42	0	7	22	5	3	.....	J. M. Hicks.
Olney	Richland	486	26	67.8	− 1.9	103	3	34	22	39	4.04	+ 0.65	1.60	0	7	12	15	3	sw.	John T. Ratcliff.
Palestine	Crawford	500	31	68.2	+ 0.4	100	3	39	23	38	3.23	− 0.16	1.33	0	10	12	8	10	s.	Duane Shaw.
Paris	Edgar	600	20	67.4	− 1.3	101	2	38	23†	41	3.62	+ 0.26	2.50	0	5	.....	.....	.....	.....	H. P. Twyman.
Philo	Champaign	700	29	65.8	− 0.2	100	2†	36	27	40	4.46	+ 1.30	1.04	0	9	17	7	6	ne.	H. A. Burr.
Rileyville	Saline	400	16	.....	.....	.....	.....	.....	.....	.....	3.30	− 0.16	0.95	0	9	9	9	12	ne.	W. H. Thornberry.
Shawneetown	Gallatin	307	3	.....	.....	.....	.....	.....	.....	.....	3.07	.....	0.85	0	11	.....	.....	.....	.....	Mrs. Mary O. Spivey.
Sidell	Vermilion	680	0	.....	.....	.....	.....	.....	.....	.....	2.78	.....	1.53	0	7	.....	.....	.....	.....	H. J. Sconce.
Tuscola	Douglas	644	20	.....	.....	.....	.....	.....	.....	.....	3.43	− 0.02	0.92	0	12	8	14	8	se.	Joseph O'Neal.
Urbana	Champaign	751	11	66.4	+ 0.1	98	1†	37	23	38	2.50	− 0.53	1.22	0	9	6	15	9	ne.	University of Illinois.
Kentucky.																				
Alpha	Clinton	.....	19	68.9	− 1.8	90	1†	40	23	32	2.12	− 1.04	0.45	0	8	11	6	13	w.	W. W. Hicks.
Anchorage	Jefferson	700	12	68.8	− 0.1	99	2†	37	22	40	2.22	− 0.55	0.68	0	10	13	6	11	sw.	C. E. Barrett.
Bardstown	Nelson	637	16	71.1	− 0.7	104	2	39	22	43	2.97	+ 0.28	1.04	0	8	14	6	10	s.	T. S. Talbott.
Beattyville	Lee	650	9	68.6	− 1.4	100	6	33	23	50	3.06	+ 0.28	0.64	0	7	6	10	14	e.	G. W. Cann.
Beaver Dam	Ohio	441	10	71.7	+ 0.5	103	2†	36	22	43	1.50	− 1.11	0.66	0	8	13	6	11	s.	W. T. Austin.
Berea	Madison	1,070	12	70.2	+ 1.0	98	1	33	23	46	2.15	− 0.57	0.73	0	6	20	5	5	nw.	C. F. Rumold.
Blandville	Ballard	445	32	70.8	− 0.2	98	4	43	22	27	2.18	− 0.80	0.54	0	10	9	8	13	se.	E. W. Horr.
Bowling Green	Warren	500	24	71.0	− 1.0	103	2	37	22	42	3.10	+ 0.04	1.00	0	14	14	5	11	s.	Mrs. L. G. Causey.
Burnside	Pulaski	773	22	.....	.....	.....	.....	.....	.....	.....	1.44	− 1.82	0.46	0	8	.....	.....	.....	.....	K. W. Massey
Calhoun	McLean	397	10	72.0	− 0.8	103	2†	38	22	41	2.16	− 0.42	0.70	0	11	8	12	10	sw.	W. A. Taylor.
Catlettsburg	Boyd	544	24	.....	.....	.....	.....	.....	.....	.....	2.58	+ 0.11	0.88	0	8	.....	.....	.....	.....	Mrs. Mertie M. Bruns.
Earlington	Hopkins	370	23	72.6	+ 2.1	106[a]	1	37	22	42	1.57	− 1.48	0.53	0	9	14	1	15	s.	Brick Southworth.
Edmonton	Metcalfe	600	22	69.7[a]	0.0	101[a]	3	35[a]	22	44[a]	2.11	− 1.24	0.52	0	9	9	9	12	n.	Miss Lee Ray.
Eubank	Pulaski	1,177	19	68.5	− 0.2	96	2	36	23	42	3.06	− 0.46	0.95	0	7	7	8	15	s.	Mrs. Katie Payne.
Falmouth	Pendleton	530	24	.....	.....	.....	.....	.....	.....	.....	3.18	+ 1.21	0.58	0	10	11	7	12	.....	J. V. Oldham.
Farmers	Rowan	668	6	66.7	.....	100	2	29	23	48	3.70	.....	1.30	0	7	14	5	11	w.	Lee Craycraft.
Frankfort	Franklin	560	22	69.0	+ 0.4	98	3	37	23	39	1.76	− 1.08	0.50	0	9	11	4	15	s.	J. H. Roberts.
Franklin	Simpson	691	19	72.7	+ 1.3	102	2†	40	22	43	1.58	− 2.08	0.71	0	6	0	27	3	s.	J. E. Newman.
Greensburg	Green	581	21	70.2	+ 0.2	103	3	36	22	47	2.47	− 0.50	0.51	0	14	6	0	24	se.	Mrs. Bettie K. H. Alcorn.
High Bridge	Jessamine	762	10	.....	.....	.....	.....	.....	.....	.....	1.27	− 1.84	0.44	0	11	.....	.....	.....	.....	Miss Lulu Wood.
Hopkinsville	Christian	524	17	71.2	− 0.5	103	3	34	22	45	2.46	− 0.58	1.20	0	8	9	4	17	e	W. F. Randle.
Irvington	Breckenridge	.....	15	69.2	− 1.7	98	3	38	22	35	4.57	+ 1.74	2.18	0	6	15	4	11	sw.	W. J. Piggott.
Jackson	Breathitt	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.90	.....	0.64	0	8	.....	.....	.....	.....	T. J. Turner.
Leitchfield	Grayson	635	17	70.1	+ 0.5	98	2†	38	22	37	1.95	− 1.68	0.87	0	8	11	9	10	se.	John E. Stone.
Lexington	Fayette	989	25	68.9	+ 1.0	96	2	40	23	35	1.76	− 0.66	0.45	0	12	6	13	11	ne.	U. S. Weather Bureau.
Loretto	Marion	681	16	69.7[a]	− 0.9	101[a]	2†	34[a]	23	44[a]	2.31	− 0.37	0.65	0	9	12	7	11	.....	Loretto Academy.
Louisa	Lawrence	.....	0	.....	.....	.....	.....	.....	.....	.....	1.98	.....	0.68	0	8	.....	.....	.....	.....	L. S. Johnson.
Louisville (1)	Jefferson	525	41	70.0	+ 0.1	98	2	43	23	34	1.85	− 0.78	0.54	0	9	7	10	13	n.	U. S. Weather Bureau.
Louisville (2)	.....do	.....	3	68.9	.....	96	2†	37	23	38	1.93	.....	0.44	0	9	11	10	9	sw.	W. I. Hunt.
Manchester	Clay	.....	4	.....	.....	.....	.....	.....	.....	.....	1.79	.....	0.60	0	6	.....	.....	.....	.....	Mrs. George P. Hatton.
Marion	Crittenden	.....	18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	B. C. Paris
Maysville	Mason	524	16	67.6	− 2.6	101	2	35	23	50	3.46	+ 0.77	0.80	0	14	12	3	15	se.	Mrs. Mary D. Marsh.

TABLE 1.—*Climatological data for September, 1913. District No. 3*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Sky.				Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Kentucky—Continued.																				
Middlesboro	Bell	1,128	18	67.8	− 1.0	95	2	38	21†	44	1.80	− 0.95	0.41	0	7	16	8	6		B. H. Perkins.
Mount Sterling	Montgomery	930	23	67.6	0.0	96	2	37	23	41	3.06	+ 0.17	1.02	0	11	12	6	12	ne.	Jas. O'Connell.
Owensboro	Daviess	479	16	69.9	− 0.7	98	3	39	22	37	4.25	+ 1.44	0.87	0	11	11	5	14	se.	Henry S. Berry.
Paducah	McCracken	341	24	.....	.....	.....	.....	.....	.....	.....	2.65	− 0.34	1.25	0	6	.....	.....	.....	.....	S. A. Fowler.
Pikeville	Pike	.....	5	.....	.....	.....	.....	.....	.....	.....	3.50	.....	1.50	0	8	.....	.....	.....	.....	I. M. Williams.
Richmond	Madison	926	21	71.4	+ 0.8	101	2	40	23	43	3.07	+ 0.43	0.63	0	12	11	4	15	e.	J. W. Crooke.
St. John	Hardin	777	17	69.0	+ 0.1	100	2†	35	22	38	2.54	− 0.55	1.10	0	11	14	2	14	.....	Bethlehem Academy.
Scott	Kenton	.....	15	67.5	− 2.5	98	1	32	23	41	2.74	+ 0.26	0.84	0	10	11	5	14	s.	E B. Wilson.
Shelby City	Boyle	1,087	19	68.0	− 1.6	101	2	32	23	52	1.63	− 1.39	0.82	0	10	14	8	8	ne.	H. F. Ewing.
Shelbyville	Shelby	759	24	70.3	+ 0.8	103	3	38	23	43	3.46	+ 0.57	1.95	0	8	10	7	13	sw.	C. R. Burnett.
Taylorsville	Spencer	489	11	68.5	− 0.2	99	3	37	23	40	3.16	− 0.24	0.58	0	12	12	5	13	se.	E. D. Bourne.
Williamsburg	Whitley	939	17	69.5	− 0.8	97	1†	37	22	47	2.61	− 0.53	0.84	0	11	14	6	10	e.	N. C. Jones.
Williamstown	Grant	943	11	66.8	− 0.2	97	1†	37	23	38	3.11	+ 0.02	0.65	0	10	16	6	8	.....	Miss Rose Carter.
Tennessee.																				
Ashwood	Maury	725	40	72.2	+ 1.5	99	3	37	22	42	1.77	− 1.89	1.05	0	6	3	8	19	s.	Mrs. Joseph W. Fleming.
Benton	Polk	880	29	72.2	+ 1.1	98	2	37	22	39	2.82	− 0.21	1.35	0	5	11	11	8	s.	George L. Williams.
Birds Bridge	Greene	.....	7	.....	.....	.....	.....	.....	.....	.....	3.90	.....	0.82	0	12	16	1	13	e.	David B. George.
Bluff City	Sullivan	.....	18	.....	.....	.....	.....	.....	.....	.....	4.00	+ 1.15	0.93	0	10	13	2	15	w.	Walter C. Masengill.
Byrdstown	Pickett	1,026	21	71.0	+ 0.6	94	1†	41	23	38	1.61	− 1.70	0.45	0	6	4	11	15	s	John Lacy.
Carthage	Smith	500	30	72.5	+ 1.2	102	2†	38	22	41	1.48	− 1.75	0.57	0	10	14	3	13	se.	Earl C. Pickering.
Cedar Hill	Robertson	625	15	72.7	− 0.1	104	2	37	22	44	1.89	− 1.30	1.20	0	8	16	5	9	s.	J. Frank Ruffin.
Celina	Clay	494	10	.....	.....	.....	.....	.....	.....	.....	1.51	− 1.93	0.48	0	8	16	0	14	n.	Charles M. Anderson.
Charleston	Bradley	709	29	.....	.....	.....	.....	.....	.....	.....	3.12	− 0.46	0.92	0	9	16	1	13	n.	John T. Weeks.
Chattanooga	Hamilton	808	34	71.2	0.0	95	2	41	22	30	3.74	+ 0.49	1.69	0	12	8	10	12	ne.	U. S. Weather Bureau.
Clarksville	Montgomery	500	53	72.7	+ 2.7	106	3	37	22	42	1.65	− 1.27	0.90	0	8	11	10	9	sw.	Dr. James A. Lyon.
Clinton	Anderson	800	29	.....	.....	.....	.....	.....	.....	.....	3.12	+ 0.31	1.20	0	6	13	0	17	sw.	H. C. Slover.
Crossville	Cumberland	1,895	1	69.0i	.....	95	2	36	22	36i	2.73	.....	1.05	0	7	.....	.....	.....	.....	J. E. Converse.
Dandridge	Jefferson	.....	8	.....	.....	.....	.....	.....	.....	.....	3.66	.....	1.10	0	6	11	4	15	w.	James E. Swann.
Decatur	Meigs	850	18	70.8	− 0.1	100	1	35	22	42	3.69	− 0.02	1.38	0	13	12	10	8	sw.	J. Worth Lillard.
Dickson	Dickson	800	20	71.0	− 0.5	100	3	33	22	43	2.13	− 0.32	1.67	0	6	19	3	8	s.	Nathan R. Sugg.
Dover	Stewart	500	17	71.9	− 0.4	103	3	36	22	42	2.65	− 0.40	0.77	0	7	11	7	12	s.	Asa M. Tippit.
Dunlap	Sequatchie	726	4	67.1h	.....	98h	8	35h	22	42h	4.84	.....	2.00	0	11	6	12	4	.....	S. Bradford Boyd.
Elizabethton	Carter	1,575	22	.....	.....	.....	.....	.....	.....	.....	3.85	.....	0.95	0	11	20	0	10	e.	Charles Boyd.
Erasmus	Cumberland	1,850	16	66.6	+ 0.3	96	6	30	22	47	3.61	+ 0.16	1.30	0	9	8	14	8	se.	Mrs. Sara E. Ashley.
Florence	Rutherford	560	31	72.1	+ 0.8	98	3	39	22	34	2.15	− 1.33	0.54	0	8	15	8	7	s.	Erastus P. Bell.
Franklin	Williamson	648	25	71.4	+ 0.1	99	3	38	22	36	2.41	− 1.14	1.37	0	6	13	2	15	.....	Young M. Rizer.
Halls Hill	Rutherford	.....	10	.....	.....	.....	.....	.....	.....	.....	1.37	− 2.37	0.36	0	6	16	2	12	s.	Edward F. Wright.
Hohenwald	Lewis	983	30	72.8	+ 3.0	101	3	32	22	43	2.42	− 0.70	1.55	0	9	9	11	10	se.	Mrs. Mary Lutzelman.
Iron City	Lawrence	600	18	70.6	− 1.3	99	3	33	22	43	3.53	− 0.30	1.66	0	7	4	20	6	sw.	Capt. H. Paul Seavy.
Jefferson City	Jefferson	.....	3	.....	.....	.....	.....	.....	.....	.....	3.51	.....	1.30	0	8	.....	.....	.....	.....	Calvin C. Maddox.
Johnson City	Washington	1,620	20	67.8	− 0.1	101	7	32	22	42	3.57	+ 1.00	1.43	0	6	19	9	2	w.	Ward Crosby.
Johnsonville	Humphreys	364	29	71.8	− 0.4	103	3	36	22	43	2.52	− 0.70	0.80	0	8	7	12	11	nw.	Miss Sallie B. Mathews.
Kingston	Roane	.....	29	.....	.....	.....	.....	.....	.....	.....	4.51	+ 0.88	1.45	0	11	17	0	13	e.	Henry Crumbiss.
Knoxville	Knox	977	42	70.2	+ 0.8	94	2	43	22	31	3.34	+ 0.53	1.45	0	10	10	10	10	ne.	U. S. Weather Bureau.
Lebanon	Wilson	522	4	72.6	.....	101	3	43	22	39	2.43	.....	0.69	0	9	11	5	14	n.	H. Logan Fields.
Lewisburg	Marshall	727	19	72.0	+ 0.5	99	3	40	22	42	3.21	− 0.49	1.30	0	9	10	12	8	s.	Dr. Robert D. Crutcher.
Liberty	De Kalb	672	16	.....	.....	.....	.....	.....	.....	.....	0.80	.....	0.21	0	6	11	0	19	s.	Bratten Evans.
Loudon	Loudon	816	22	70.5	.....	97	2	40	22	38	3.30	− 0.35	1.12	0	6	16	2	12	e.	Robert W. Clark.
Lynnville	Giles	770	26	71.0	0.0	97	3	39	22	33	5.08	+ 1.12	2.33	0	6	14	13	3	s.	Col. James H. Burrow.
McGhee	Monroe	.....	8	.....	.....	.....	.....	.....	.....	.....	4.50	.....	1.46	0	8	17	0	13	e.	Miss Alice L. Headrick.
McMinnville	Warren	1,038	32	72.5	+ 2.7	100	23	34	22	45	2.75	− 0.48	1.00	0	9	12	8	10	sw.	Horace H. Stiles.
Maryville	Blount	1,050	20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mountain City	Johnson	2,486	16	62.8	− 0.6	85	7†	31	23	42	3.79	+ 0.67	1.17	0	9	15	10	5	.....	Edward H. Barry.
Nashville	Davidson	654	42	72.2	+ 0.7	99	3	43	22	32	1.79	− 1.89	1.06	0	10	9	9	12	se.	U. S. Weather Bureau.
Newport	Cocke	1,280	23	.....	.....	.....	.....	.....	.....	.....	3.32	.....	1.05	0	8	5	6	19	s	Dr. Charles T. Burnett.
New River	Scott	1,215	5	.....	.....	.....	.....	.....	.....	.....	2.63	.....	0.97	0	6	14	2	14	s.	Burl W. Buttram.
Palmetto	Bedford	770	23	73.0	+ 0.7	101	3	40	22	37	2.84	− 0.82	1.20	0	11	9	12	9	s.	Mrs. Ross Woods.
Perryville	Decatur	387	17	71.6	− 0.8	102	3	38	23	45	4.60	+ 1.91	1.26	0	10	10	17	3	.....	Oliver C. Kirksey.
Pinewood	Hickman	.....	7	72.6	.....	101	1†	29	22	55	1.95	.....	1.25	0	3	10	8	12	s.	Miss Carrie Cash.
Rogersville	Hawkins	1,150	29	69.0	+ 0.2	97	7	39	22	42	3.74	+ 1.01	1.12	0	8	15	10	5	e.	Fred Beal.
Rugby	Morgan	1,410	24	68.0	+ 0.7	98	2	33	23	48	2.79	− 0.80	0.66	0	7	6	13	11	ne.	Samuel G. Wilson.
Savannah	Hardin	442	30	73.6	+ 1.5	103	3	40	22	38	6.37	+ 3.14	3.20	0	10	7	12	11	s.	W. H. Carrington.
Sevierville	Sevier	.....	7	72.4	.....	98	4	37	22	37	3.41	.....	1.37	0	8	6	7	17	sw.	Herbert O. Eckel.
Sewanee	Franklin	2,000	19	68.2	− 1.3	91	3	38	22	29	3.96	+ 0.80	.....	0	.....	5	16	9	s.	University of the South.
Sparta	White	920	7	70.6	.....	96	2†	37	22	40	2.35	.....	1.00	0	5	7	15	8	w.	Ernest H. Hull.
Springville	Henry	377	11	71.2	− 0.9	105	3	35	22	42	4.11	+ 0.61	1.12	0	10	18	5	7	se.	Hudnall A. Boden.
Tazewell	Claiborne	1,350	16	67.2	.....	97	2	34	23	44	3.14	− 0.26	0.98	0	7	12	6	12	se.	J. Caloway Carr.
Tullahoma	Coffee	1,075	26	70.2	+ 0.3	97	3	37	22	34	5.58	+ 2.44	2.58	0	10	11	11	8	se.	Reuben T. Moore.
Walling	White	909	9	.....	.....	.....	.....	.....	.....	.....	2.30	.....	0.75	0	9	8	7	15	s.	John K. Roberts.
Waynesboro	Wayne	753	28	71.6	+ 1.5	100	3	34	22	42	2.95	− 0.42	1.36	0	9	4	15	11	s.	Harry C. Boyd.
Wildersville	Henderson	400	17	72.6g	+ 0.9	100g	1†	40g	21	34g	3.77	+ 0.96	1.10	0	7	.....	.....	.....	s.	William R. Wilson.
Worsham	Sumner	550	11	.....	.....	.....	.....	.....	.....	.....	2.17	− 0.81	0.62	0	8	16	1	13	e.	James G. Elizer.
Yukon	Lincoln	850	17	70.0	− 2.6	97	3	39	22	30	4.32	+ 0.93	3.30	0	6	8	14	8	sw.	William P. Watson.
Alabama.																				
Bridgeport	Jackson	660	13	.....	.....	.....	.....	.....	.....	.....	5.12	+ 2.26	2.71	0	10	.....	.....	.....	.....	R. L. Moore.
Decatur	Morgan	573	31	72.5	− 0.3	98	3	41	22	35	3.71	+ 0.77	1.81	0	10	.....	.....	.....	.....	Earnest A. Carriger.
Florence	Lauderdale	563	29	71.8	− 1.4	103	3	37	22	37	3.24	− 0.10	2.39	0	14	12	5	13	e.	Cyrus A. Ashcraft.
Guntersville	Marshall	580	3	.....	.....	.....	.....	.....	.....	.....	6.68	.....	4.90	0	13	.....	.....	.....	.....	L. S. Long.
Madison	Madison	573	19	73.0	− 1.2	100	3	39	22	39	4.11	+ 0.56	2.50	0	5	12	9	9	.....	Edward Humphrey.
Riverton	Colbert	360	16	71.4	− 1.7	100	3	34	22	47	2.67	− 0.73	1.02	0	8	.....	.....	.....	.....	James F. Long.
Scottsboro	Jackson	652	30	71.0	− 0.9	96	3	36	22	38	6.28	+ 2.71	3.05	0	8	7	6	17	e.	H. A. Caldwell.
Tuscumbia	Colbert	488	31	72.2	− 0.8	98	3	42	23	36	3.80	+ 0.71	1.60	0	7	.....	.....	.....	.....	Samuel Moore.
Georgia.																				
Mineral Bluff	Fannin	1,571	.....	67.6	.....	90	7	41	22	.....	1.82	.....	1.72	0	7	20	4	6	.....	W. T. S. Dickey.

TABLE 1.—*Climatological data for September, 1913. District No. 3*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, 0.01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
North Carolina.																				
Altapass	Mitchell	2,629	....	61.4	.....	84	3	30	23	39	6.60	.....	1.50	0	10	5	17	8	s.	Altapass Inn.
Andrews	Cherokee	1,800	3	66.5	.....	91	1	33	22	44	4.36	.....	1.15	0	12	12	13	5	sw.	J. D. Link.
Asheville	Buncombe	2,255	34	63.7	− 1.3	87	2	36	23	37	4.15	+ 1.11	1.62	0	12	10	11	9	se.	U. S. Weather Bureau.
Banners Elk	Avery	3,750	5	58.3	.....	79	1†	29	23	39	6.16	.....	2.10	0	10	14	6	10	w.	T. L. Lowe.
Blantyre	Transylvania	1,900	1	.....	.....	.....	.....	.....	.....	.....	7.68	.....	1.70	0	12	....	....	....	.....	R. W. Collett.
Blowing Rock	Watauga	4,090	4	.....	.....	.....	.....	.....	.....	.....	7.32	.....	1.75	0	9	....	....	....	.....	E. G. Underdown.
Brevard	Transylvania	2,230	12	63.2	− 4.2	85a	8	34	22†	40a	6.39	+ 1.36	1.19	0	21	12	0	18	.....	Prof. C. H. Trowbridge.
Bryson City	Swain	2,000	25	.....	.....	.....	.....	.....	.....	.....	3.10	− 0.20	0.99	0	9	....	....	....	.....	D. K. Collins.
Cane River	Yancey	2,700	....	.....	.....	.....	.....	.....	.....	.....	2.88	.....	0.79	0	12	....	....	....	.....	Hiram A. Proffitt.
Cullowhee	Jackson	2,100	3	64.6	.....	87	2	33	22†	43	3.99	.....	1.12	0	10	13	4	13	nw.	Frank H. Brown.
Eagles Nest	Haywood	5,050	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	....	....	....	.....	S. C. Satterthwait.
Ellijay	Macon	2,500	....	.....	.....	.....	.....	.....	.....	.....	3.35	.....	0.87	0	12	....	....	....	.....	Chas. G. Mincy.
Hendersonville	Henderson	2,167	16	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	....	....	....	.....	.....
Highlands	Macon	3,850	23	59.0	− 1.3	78	2	31	22	31	8.83	+ 3.18	2.65	0	14	10	13	7	se.	T. G. Harbison.
Hot Springs	Madison	1,326	15	67.2a	− 2.9	89	7	39	23	35	3.61	.....	1.00	0	7	16	12	2	w.	P. A. Garner.
Jefferson	Ashe	2,900	6	61.3	.....	85	1	31	23	40	6.69	.....	1.58	0	12	5	3	22	w.	Prof. E. J. Johnson.
Marshall	Madison	1,646	11	66.8	− 1.2	91	6	37	23	40	3.30	+ 0.45	0.80	0	10	13	7	10	e.	M. L. Church.
Murphy	Cherokee	1,614	37	.....	.....	.....	.....	.....	.....	.....	4.24	+ 0.75	1.09	0	11	....	....	....	.....	Miss Victoria Mingus.
Rock House	Macon	3,100	21	61.1	− 5.2	82	2	36	22	26	9.79	+ 3.09	1.66	0	15	7	12	11	ne.	Barry C. Hankins.
Transon	Ashe	2,600	1	.....	.....	.....	.....	.....	.....	.....	8.83	.....	1.91	0	11	....	....	....	.....	S. M. Transon.
Waynesville	Haywood	2,792	19	63.2	− 2.1	89	2	31	23	42	2.95	+ 0.35	0.91	0	9	13	8	9	ne.	Mrs. Chas. E. Quinlan.
Virginia.																				
Blacksburg	Montgomery	2,170	22	62.2	− 2.2	87	1†	32	23	42	2.99	− 0.08	1.39	0	9	10	5	15	w.	Agricultural Exp. Station.
Burkes Garden	Tazewell	3,250	18	58.5	− 1.8	82	7	29	3	41	3.62	− 0.07	1.45	0	8	11	5	14	w.	C. H. Greever.
Elk Knob	Lee	3,243	10	67.1	− 1.8	89	7	37	22	23	2.97	− 0.18	0.92	0	10	15	6	9	ne.	Henry Nicoll.
Ivanhoe **	Wythe	2,028	9	60.2	.....	80	7	36	23	28	4.51	.....	1.70	0	13	14	7	9	w.	Miss Alice G. Jewett.
Max Meadows	....do	2,028	17	63.0	− 2.4	87	25	31	23	47	3.36	+ 0.34	1.98	0	7	12	10	8	w.	James M. Graham.
Mendota	Washington	1,350	4	.....	.....	.....	.....	.....	.....	.....	4.63	.....	0.90	0	11	....	....	....	.....	Frank M. Barker.
Mountain Lake	Giles	4,348	3	57.1	.....	78	1†	32	22†	33	2.51	.....	1.33	0	7	21	1	8	.....	H. E. Dorland.
Radford	Montgomery	1,773	4	.....	.....	.....	.....	.....	.....	.....	3.73	.....	1.80	0	9	....	....	....	.....	Arthur Roberts.
Speers Ferry	Scott	1,221	17	.....	.....	.....	.....	.....	.....	.....	3.54	− 0.14	1.30	0	7	....	....	....	.....	Miss L. E. Venable.
Wytheville	Wythe	2,293	20	62.0	− 1.8	86	1†	34	23	39	2.89	− 0.40	1.00	0	12	11	10	9	e.	U. S. Weather Bureau.

a, b, c, etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.
** Temperature extremes are from observed readings of the dry bulb; means are computed from observed readings.
† Also on other dates.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 2.—*Daily precipitation for September, 1913. District No. 3, Ohio Valley.*

Stations.	Watershed.	Day of month.																											Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
New York.																																
Allegany	Allegany					T.			T.								T.	.42	.06			.79	.10				.07				.35	1.79
Bolivar	do							T.									T.	.52	.20		T.	.67	.19								.07	1.65
Olean	do																	.32	.12			.55	.42					.04		.02		1.47
Pennsylvania.																																
Aleppo	Ohio						.50	.45					.21					.55	.60			.38	.10							.06		2.85
Baldwin	Allegheny							.10	T.								T.	.20	.17			.70	.10							T.	.23	1.50
Beaver Dam	Ohio								.32				.03	.06				.36	.48	.03		.27	.07	.02				T.			.21	1.85
Beaver Falls	do							.05	.29				.04	.03				.20	.16			.35	.06	.03				.01		T.	.12	1.34
Brookville	Allegheny																	.56	.02			.80	.02	.01						.03	.13	1.57
Cheat Haven	Monongahela							.02	.11				.20	.05				.60	.69	.64	T.		.87	.08						.03		2.69
Clarion	Allegheny								.10									.02	.24			.51	.32								.08	1.27
Claysville	Ohio								.09				.11	T.			.24	.44	1.03			.25	.27							.06		2.49
Confluence	Youghiogheny								.92	.25				.26					.52	.11	T.	.98	.35									3.39
Coraopolis	Ohio								.40				.02	.08				.13	.53	.03		.17	.05	T.						.03	.24	1.68
Davis Island Dam	do								1.12	.01			.02	.07				.16	.42	.03		.36	.04	.05				T.		.08	.21	2.57
Derry Station	Allegheny							1.64	1.28				.08	.10				.89	.30		T.	1.13	.01							T.		5.43
Edinboro	do								.05								.08	.64	.21			.37	T.				.09			T.	.36	1.80
Ellwood City	Ohio							.13	.32				.07	.04				.04	.13			.39	.08	.04				.02		T.	.12	1.38
Franklin	Allegheny																	.23	.74			.53	.14					.03		T.		1.67
Freeport	do								1.03				.05	T.				.14	.47	T.		.37	.54	.03							.14	2.77
Greensboro	Monongahela								.10					.22				T.	.62	.50		.34	.12					T.		T.	T.	1.90
Greensburg	Youghiogheny							1.29	.28				.07	.08			T.	.64	.32	.01		.90	.05							.02		3.66
Greenville	Ohio							T.	.07				T.				.13	.09	.13	.02	.53	.08	.04				.07	T.		.10	.07	1.33
Grove City	do	T.						.06	.05				T.				.09	.19	.12			.68	.03				T.			.08	.02	1.32
Herrs Island Dam	Allegheny						.13		1.06	.17			T.	.06			T.	.12	.33	T.		.21	.04	T.				T.		.04	.15	2.31
Indiana	do								.67				.06			1.19	.25	.20		.91	.16								T.	.10	3.54
Irwin	Monongahela								1.20				.10					.62	.26	.04		.31	T.							.15	T.	2.68
Johnstown	Allegheny						.20	1.80	.11				.13					.40	.48	T.	.02	.84	.03							.03		4.04
Lock No. 4	Monongahela								.47				T.	.12				.05	.75	.03	T.	.18	.15							.04	T.	1.79
Lycippus	Allegheny							.32	.59				.09	.12			T.	.47	.33			1.48								.06		3.46
Mosgrove	do							.01	.18	T.			T.	.01				.13	.40	.01	T.	.41	.27	.01							.05	1.48
Parkers Landing	do								.12					.01				.04	.18			.62	.08	.04						.01	.14	1.24
Pittsburgh	Ohio					.42		.59	.89				.07				.05	.26	.07		.20	.06	.01				T.	T.		.24		2.86
Punxsutawney	Allegheny						.12	.52					T.				T.	.92	.12	.01	.08	*	1.80							T.	T.	3.57
Ridgway	do						.50	.40										.70				1.36	.05								.04	3.05
Saegerstown	do																.10	.16	1.55			.47	.01				.05		.02	.27	2.63
Saltsburg	do								.76	.15			.01	.10				.01	.96	.05	T.	.47	.26	.07				T.			T.	2.84
Sharon	Ohio								.11				T.					.14	.32			.37	T.					.06		.03	.33	1.36
Somerset	Youghiogheny							3.10	.30					.11				.52	.90	T.	.21	.90	.11									6.15
Springdale	Allegheny								.97				.03	.09				.07	.50	.02		.25	.13							.02	.10	2.18
Uniontown	Monongahela								.41				.30					.48	.61			1.11						.06			.02	2.99
Warren	Allegheny					.16												1.20				.50	.40								.28	2.54
West Newton	Youghiogheny							.01	.46	T.			T.	.18				.02	.59	.04	.02	.16	.20	.02							.02	1.72
Maryland.																																
Deer Park	Youghiogheny						.25	.15	.24								.05	.55	.26	.26	.05	1.06	T.						.10			2.97
Grantsville	do						.36	1.13	.19				.10					.44	.30		.40	1.10										4.02
Oakland	do							.13	.05									.55	.30	.25		.90									.07		2.25
West Virginia.																																
Bancroft	Great Kanawha													.33				.60	.54	.40		.43									.45	2.75
Beckley	do								.62										1.60													2.22
Bens Run	Ohio							.26	.80								.60	.47	.28			.03	.05								.05	2.54
Bluefield	Great Kanawha																															
Brandonville	Monongahela								.90	.25				.20					.32	.16		.76	.30								.13	3.02
Buckhannon	do	.27							.27				T.				T.	.20	.20	.10	T.	1.00	T.							T.		2.04
Cairo	Little Kanawha							.10	.95	.90				.12			.73	.42	.78		.08	.35	.08									4.51
Central Station	Middle Is. Creek	*	*	*	*	*	*	*	*	*	*	*	*	*	.29		.46	.52	.72		.04	.30	.04							T.	.02	2.39
Charleston	Great Kanawha								1.10	.50				.10			.15	.20	.30	.15		.25	.10								1.10	3.95
Cheat Bridge	Monongahela																															
Cortland	do							1.82	.01				.24						1.00		.25	.64								.22	.11	4.29
Creston	Little Kanawha								.20	.15				.10			.11	.21	.62	.10		.36	.02							.01	.08	1.96
Cuba	Sand Creek							1.32	.80				.08	T.			.53	.43	.37		.35	.02	.04							T.	.09	4.03
Davis	Monongahela					T.	T.	.44	.35	.15			T.				T.		1.20	.09		1.60	.05							.10	.02	4.00
Doane	Big Sandy																															
Elizabeth	Little Kanawha							.39		.30				.07			.35	.22	.40	.28		.21		.04						.23		2.49
Elkhorn	Big Sandy								.23				T.	.10	T.		.22	.58	.23			1.01								.20		2.57
Elkins	Monongahela				T.			1.02	.23				.02				T.	1.72	.02		1.34	.57	T.							.02	.15	5.09
Fairmont	do								.04	.30			T.	.22			T.	.10	.54	.51		.43	.07	.06				.02		.01		2.30
Glenville	Little Kanawha									.42								.12	.32	.48	.18	.28	.48									2.28
Grafton	Monongahela								.06	.70			.12					.50	.10		1.12											2.60
Green Sulphur Springs.	Great Kanawha								.16							T.	.08	.43	.28	T.		1.55								.18	.10	2.78
Hinton	do			.04					.44	.32				.02			.04	.08	.58	.08		1.38	.06								.12	3.16
Holcomb	do							*	.95				.27				*	*	*	*	*	2.75						T.		*	.83	4.80
Huntington	Ohio													.36			.28	.14	.24	.30		.40								.18	.76	2.66
Lewisburg	Great Kanawha			T.	T.			T.	.30				T.	.10			T.	.36	.24			.82								.31	.07	2.20
Logan	Guyandotte	T.							.85				T.	.05		T.	.05	.11	.34		T.	.40								.25	.05	2.10
Lost Creek	Monongahela							T.	.46				T.				.08	.28	.16		T.	.52	.09									1.59
Madison	Great Kanawha								.22				.22				.08	.20			.30	.04	T.				T.	T.		1.00	.11	2.17
Mannington	Monongahela							.08	.24				.07	.04			.14	.64	.73	T.		.26	.02					.01		.05		2.28
Marlinton	Great Kanawha							.40										.40	.10		.50	.30										
Morgantown	Monongahela							T.	.20			.15							49			.77	.06									1.67
Moundsville	Ohio							.10	.45				.13	.04			.58	.30	.14	.04		.22								.15		2.15
New Cumberland	do						T.	T.	.20				.20				T.	.25	1.15		.25	T.	T.									2.05
New Martinsville	do							.15	.70				.17				.40	.40	2.40			.20	.10							.05		4.57
Nuttallburg	Great Kanawha																															
Osceola	Monongahela																															
Parkersburg	Ohio							.53	.68				.11				.40	.61	.33		.22	.02	.05				T.		T.	.01		2.96
Parsons	Monongahela							.25	.30						.10			.50			.80	1.00								.10		3.05
Philippi	do							.02	.74	.01			T.	.09			.06	.28	.15		.06	.74	.05							.05		2.25
Pickens	do						T.	.90	.48			T.						3.00		.51		3.60									.40	8.89
Point Pleasant	Ohio								.36	.06				.10			.22	.26	.50	.02		.20	.02							.02	.18	1.94
Powellton	Great Kanawha				T.			1.71	.22				.40							T.	.11	.52		.02						.70	.54	4.22
Princeton	do								.75										10	1.00	.25		2.00	.10						.10		4.30
Robertsburg	do																.34	.10	.33	.28		.40										1.45
Rowlesburg	Monongahela								.10	.40				.10				.02	.80	.40		.70	.20	.04						.02	.06	2.84
Ryan	Great Kanawha							.30	.95				.10	.01			.30	.32	.46		.28	.02	.03							.40	.19	3.36

TABLE 2.—*Daily precipitation for September, 1913. District No. 3*—Continued.

Stations.	Watershed.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
***West Virginia*—Con.**																															
St. Marys ‖	Ohio							T.	1.07	.37				.19		.27	.30	.10	.20	.38		.12		.05						T.	T.	2.78
Smithfield ‖	Fishing Creek								.32	.41	T.							.07	.41	.76	.12	.22	.35	T.						.13	.17	3.23
Spencer ‖	Little Kanawha																			.60		.26								T.	T.	0.86
Sutton ‖	Great Kanawha								T.	.20				.25			.10	T.		.50			1.00								.27	2.32
Terra Alta	Monongahela																															
Union	Great Kanawha				T.									.18			.08	.04	.45	.17		1.25	.11								.19	2.47
Valley Fork	do																															
Webster Springs	do							1.58	.60				.05	.10	.15	T.	.15	1.25	.15	T.		2.05	.05							.15	.10	6.38
Wellsburg	Ohio								.39				.15				.55	.15	1.45		.07	.18	.02							.15		3.11
Weston ‖	Monongahela																															
Wheeling ‖	Ohio								.17	.10			.02	.10			T.	.45	1.50	.03		.04	.01	T.				T.		.09	.04	2.55
Williamson ‖	Big Sandy									.60							.12	T.	.78	.02	.02	.62	T.								.22	2.38
Ohio.																															
Amesville	Ohio						T.	.45	.21				.20	T.			.54	.15	.81		.32	.09	T.							.02		2.79
Ashland	Muskingum			.06			T.	T.	.07				T.				.19	.45	.06		.35	.17	.04				T.			.08	.28	1.75
Bangorville	do			T.					.08				.15				.45	.71	T.		.88									.13	.01	2.41
Bellefontaine ‖	Great Miami				T.				.43	T.			.16	T.			.04	.26	.34			.39	.03							T.	.38	2.03
Bladensburg	Muskingum								T.				.15				.10	.50	1.18		.31	.18	.06					T.	T.	T.		2.48
Brilliant	Ohio						T.							.20			T.	.20	2.00			.25			.15				.20		T.	3.00
Cadiz	do						T.	T.					.28				1.92	.27				T.	T.				T.			.16	.30	2.93
Cambridge	Muskingum								.23				.23				.29	.09	.38		.50		.06							.08		1.86
Camp Dennison	Little Miami			.35				.63	.09				.13				.35	.20	.17		.08						T.		T.	.30		2.30
Canal Dover	Muskingum																															
Canton ‖	do				.16			.12	.92	T.			.04	T.			.02	.15	1.85		.65		.05				.05			.10	1.00	5.11
Cardington	Scioto								.44				.20				.15	.53			.81									.17		2.30
Chillicothe ‖	do								.03	1.58			.02	.12			.09	.04	.01	.06		.38									.20	2.53
Cincinnati	Ohio							.67	.32			.01	.11				.28	.13			.08		.01				.01		.02	.22		1.86
Circleville ‖	Scioto							T.	.63	.03			.02	.29			.10	.11	.30			.44							T.	.04	.13	2.09
Clarington	Ohio							T.	.25				.25				.52	.30	1.30		T.	.20	.06					T.		T.	.05	2.93
Columbus	Scioto						.17	T.	.03				.16				.29	1.46	.12		.56	.02	.01				T.		.03	.05	.38	3.28
Coshocton ‖	Muskingum					.06							.12	.10				.20	1.25			.45		.05			.03			.07		2.33
Dayton (1)	Great Miami			.19		.02	.04	.33					.23			T.	.31	.34	.01	.11	.40	T.	.01							.01	.31	2.31
Dayton (2)	do			T.		.82	.08	.04					.29				.29	.13	.13	.09	.38	.02	.05							.04		2.36
Delaware	Scioto			.18			.01	.03					.14	.01			.38	.09	.97		.02	.62	.01							.07	.02	2.55
Demos	Ohio						T.	.35					.17				.33	.16	.64		.12	.06	.02					T.		.06	.01	1.92
Dennison	Muskingum						T.	T.	.76				.70				.18	.80	1.80		.43	.10	.20							.22	T.	5.19
Frankfort	Scioto						T.	T.	.50				.27					.35	.23	.60	T.									.10	.05	2.10
Gallipolis ‖	Ohio								.10	.10				.07			.32	.14	.61	.09		.25									.23	1.91
Garrettsville	Mahoning			T.				.46	.10				.02				.07	.15	.11		.39	.08	.01				.07			.11	.07	1.64
Granville ‖	Muskingum			T.				T.	.56	.27			.13	.07			.07	.21	1.19			.40	.08					T.		T.	.03	3.01
Gratiot	do							.46	.17				.18				.19		1.08		.50	T.	.02							.18		2.78
Green	Ohio					T.	T.	.20	.25							T.	T.	T.	.45		.62									.60	T.	2.12
Green Hill	Muskingum							.28	.04				.06				.15	.51	.16		.42	T.	T.				T.	T.		.21	T.	1.83
Greenville ‖	Great Miami							.06	.03	.05			.19	.08			.54	.08	.23		.10	.28	.02							.13	.06	1.85
Hamilton	do							.56					.21				.30	.16	.03	.40												1.66
Haydenville	Ohio								1.22				.26				.28		.20		.21									.14		2.31
Hillsboro	Scioto																															
Ironton	Ohio												.43	.04			.26	.73	.02		.39									1.20	.12	3.19
Kenton	Scioto							.13	.03				.30				.20	.10	.10		.22	T.	T.							T.		1.08
Killbuck	Muskingum							T.	.12				.05				.15	.15	.62		.70	.09	.10				T.			.30		2.28
King's Mills ‖	Little Miami							.26	.40	.04			.13	.20			.13	.29	.01		.36	.16	T.			.06				.08		2.12
Lancaster	Ohio							T.	1.31				.17				.05	.37	.25		.46		.05				T.		T.	.05		2.71
McConnellsville	Muskingum							.04	.71				.21				.29	.26	1.10		.23	.03	.01							.11		3.04
Marietta	Ohio							.72	.45				.16				.31	.31	.62		.18	.05	.05							.06	T.	2.91
Marion	Scioto								.17				.50				.47	.17			.62	.05					T.			.05	.90	2.93
Milfordton	Muskingum						T.		.18				.15				.21	.24	.22		.49	.05	T.						T.	.23		1.77
Milligan	do						.22	.06	.40				.20				.30	.13	.70		.30									.03		2.34
Millport	Ohio							.68	T.				.10				.21	.18	.31		.28	.04	.02			T.	T.			.32		2.14
Nellie	Muskingum								.10				.14				.16	.20	1.05		.35									.16		2.16
New Berlin	do																															
New Waterford	Ohio							1.20										*	.50		*	*	.38				T.			.10	T.	2.18
Ohio State Univ	Scioto						.16		.04				.16				.20	.74	.25		.22	.02								.05		1.84
Oregonia ‖	Little Miami																															
Pataskala	Muskingum						1.53	.03	.08				.21				.11	.40	.75		.81	.02	.07				T.			.07	.62	4.70
Peebles	Ohio								.75				.18				.08	.03	.18	.13	.52		.01							.43	.01	2.32
Philo (1)	Muskingum						T.	T.	.26				.30				.21	T.	.66		.46	.26	.03							T.	T.	2.18
Piqua ‖	Great Miami							.10	.13	.22			.45	.10			.20	.15	.33		.06	.40									T.	2.14
Plattsburg	Little Miami							T.	.08				T.				.55	.35	.07	T	.73	T.					T.			.08		1.86
Portsmouth ‖	Ohio								.12					.43				.23	.12	.78		.40									.37	.11	2.56
Prospect ‖	Scioto																															
Sidney	Great Miami							T.					.20				.27	.74	.04		.23		.08							.03		1.59
Somerset ‖	Muskingum							.08	.60	.02			.03	.13			.24	.20	.63	.02		.38	.01								.01	2.35
Springfield	Great Miami			T.			.15	T.	.18				.31				.32	.19	.05	T.	.26	.03	.01							.06	T.	1.56
Summerfield	Ohio							.07	1.15				.37				.34	.10	.65		.25	.04	.06							.09	.05	3.17
Syracuse	do							.32	.11				.16				.69	.38	.08		.36											2.10
Thurman	do							.33	1.50				T.				.12	.10	T.		.30									T.	T.	2.35
Toboso	Muskingum												.15	.15					1.50			.49										2.29
Urbana	Great Miami						.02	T.	.22				.22				.37	.71	.05		.42	T.								.08	T.	2.09
Warren	Mahoning							1.02	.06				T.				T.	.03	.72		.34						.06			.04	.05	2.32
Waverly ‖	Scioto							T.	T.	.70			.01	.13			.10	.08	.13	.08	.05	.52	.04	T.			T.			.14	.21	2.19
Waynesville	Little Miami							.08	.35				.25				.45	1.32	.25	.35	.23	T.								T.	T.	3.27
Wooster	Muskingum				T.			T.	.03								.18	2.20	.29		.60	T.	.12				.02			.25	.01	3.70
Youngstown ‖	Mahoning								.42				.02					.11	.09			.31		.02				.01		.01	T.	0.99
Zanesville ‖	Muskingum								.10	.80			.07	.16			.08	.17	.73	.05		.44	.01	T.				.01		.06	.01	2.69
Indiana.																																
Anderson	W. Fork, White			T.				T.	T.				.34				.33	.05			.42		.02								.18	1.34
Attica ‖	Wabash	T.					.05			.02			.55				1.50	.39	.07			.13	.26				.17			.15	.02	3.31
Bloomington ‖	W. Fork, White							T.		.24			.28	.11		.04	.50	.25	.70	.02	.18	.70	T.				T.			.03		3.05
Bluffton ‖	Wabash										.44						.56	.11	.13	.36	.05						.03			.10	.01	1.79
Butlerville	E. Fork, White							.27	.17				.41				.12	1.10	.07	.12	.23									.24		2.73
Cambridge City ‖	Whitewater								1.40				.28	.23			.35	.03	.46			.26										3.01
Columbus ‖	E. Fork, White																															
Connersville	Whitewater								.33				.55				.35	.14			.24											1.61
Crawfordsville	Wabash						T.		.15			T.	.60			.25		.95			.50									.10	T.	2.55
Delphi ‖	do												.41				.51	.46	T.		.06	.23	.04				.13			.46	T.	2.30
Evansville	Ohio					T.	T.		.15				.68		T.	.54	.09	.78	.88		.43	T.					.01		.56	.19		4.31

TABLE 2.—*Daily precipitation for September, 1913. District No. 3*—Continued.

Stations.	Watershed.	Day of month.																											Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
***Indiana*—Contd.**																																
Farmersburg	Wabash								.15			.08	.48			1.63	.20	.25	.76	.23	.32								.02			4.12
Farmland ‖	W.Fork,White	T.						.04	.01				.20	.06			.46	.16	.64	.03	.10	.57	.05					.02		.10		2.44
Forest Reserve	Ohio							1.25				.38	.08			.04	.09	.30	.73	.01	.26	.01	T.							.50	.26	3.91
French Lick ‖	E. Fork,White							T.	T.	.03			.03	.08		.05	.53	.39	.81		.01	.33								.35	.02	2.63
Greenfield	do							T.		T.			.65				.37	.05	T.	T.	.50	T.					T.			T.	.55	2.12
Greensburg	do							.25								.05	.95	1.10	.25	.20			.20						T.		.45	3.45
Hickory Hill	W.Fork,White								.20				.25		.12	.54		1.39			.53										.10	3.13
Huntingburg	Wabash								1.90				.18			.36	.21	2.18	1.15	.05	.39								.20	.65		7.27
Huntington	do												.58			T.	.48	.04			.20	T.	.03				.08		T.	.45	.28	2.14
Indianapolis	W.Fork,White						T.	.04	.11			T.	.40			.20	.30	.18	T.	.06	.51	.02					.01		T.	.07	1.12	3.02
Jeffersonville	Ohio							T.	.07				.20			.05	.02	.32	.55	.01	.25	T.							T.	.35	.14	1.96
Judyville	Wabash						.02	T.	.06				.55			1.06	.54	.70			.09	.08	.02				.19		.02	.09	.02	3.44
Kokomo	do								T.				.10			.03	.75	.24			.23	.03	.04				.03			.09	.15	1.69
Lafayette ‖	do							T.	.04				.48			.23	.54	.15			.16	T.	.01				.09		.01	.18	.08	1.97
Logansport ‖	do								.25				.53				.80	.47			.13	.36								.40		2.94
Madison	Ohio								.46				.12			.03	.12	.39	.18	.03	.43						T.			1.09		2.85
Marengo	do								.59				.10			.40		.50	2.10		.40									.95		5.04
Marion ‖	Wabash												.38				.28	.10	.45			.30	.08					.04		.07	.33	2.03
Mauzy	E. Fork,White							.11					.34			T.	.45	.56	.04		.43	T.	.06				T.			T.	.50	2.49
Monticello ‖	Wabash								T.				.37				.73	.60			.05	.15	T.				.20			.21	T.	2.31
Moores Hill	Ohio							.26					.26			.01	.29	.46	.02		.22		.01				T.		.01	.37		1.91
Mount Vernon ‖	do									.21			T.	.95		.40	.48	.70	.24	.27	.10	.01						T.		.76	.01	4.13
Nashville	E. Fork,White								.01			.02	.26			.56	.06	.57		.18	.43	T.					T.					2.09
Paoli	do							T.	.21				.06			.33	.63	1.37	.21		.56		.01						.02	.71		4.13
Princeton	Wabash							T.	T.				.55			1.01	.12	.52	.56		.21								.33			3.30
Richmond	Whitewater						.09	.14	T.			.17	.30				.27	.94	.01	T.	.47	.02								.06	.02	.09	2.58
Rochester	Wabash												.21				.78	.31			.70									.40	.30	2.70
Rockville	do							T.	T.			T.	.67			.93	.18	.80			.38	T.	.01				.06		T.	.03	.27	3.38
Rome	Ohio							.03	.03	.52			.82			.44	.06	.22	1.69	.01	.23	.03							.05	.30	T.	4.43
Salamonia	Wabash				T.		.02						.18			T.	.21	2.02	.08		.23	.09								.13		2.96
Salem	Ohio							.36	.08				.15			.20	.41	.11	.66	T.	.63	T.	T.				T.	T.	T.	.75		3.35
Scottsburg	E. Fork,White							.11				.27	.11			.03	.05	.11	.29	T.	.25	.08					.03		T.	1.03		2.36
Seymour	do						T.	.22	.21			.04	.21			.04	.05	.69	.10	T.	.34	T.	.01				T.		T.	.11	.37	2.39
Shelbyville	do							.06	.06				.31			T.	.28	.44		T.	.65	.01	.06				T.			.02	T.	1.89
Shoals ‖	do												.28	.06		.07	.52	.70	.60	.01	.09	.24								.20		2.77
Terre Haute	Wabash							T.	.36			.40	.38			1.80	.05	.39		.07	.28	T.					.02		.01	.02	T.	3.78
Veedersburg	do							.22	.12	.02		.06	.61			.65	1.18	.40	.06	.03	.16	.03	.07				.10		.01	.05	.02	3.79
Vevay	Ohio							.45					.15			.05	.05	1.75	.50	.25	.20	T.								1.00		4.40
Vincennes ‖	Wabash							T.	T.	1.60			.10	.10		.10	1.00	.10	.75	.10	.20	.25	T.				T.		T.	.10	T.	4.40
Washington	W.Fork,White								T.				.83			.72	.10	.70	.62	.14		.43	T.						.05	.13		3.72
Whitestown ‖	do								.04	.15			.41	.01			.50	.02				.35	.04				T.			.04	T.	1.56
Winona Lake	Wabash								T.				.25				.53	.41			.32		T.				.13			.12	.73	2.49
Worthington	W.Fork,White							1.06	T.			T.	1.17			.57	.24	.83	T.	.02	.35	.02	T.				T.					4.26
Illinois.																																
Albion	Wabash							T.	.79	.07			.49			1.54	.03	.01	.24		.43								.03	.10		3.73
Casey	do											.24	T.			2.24	.78	.16		T.	.24							.14				3.80
Charleston	do																															
Danville	do							.01	T.			*	.95			.75	1.02	.58			.05	.03	.03				.18		.02	.06	T.	3.68
Equality	Ohio							T.	T.				1.20		T.	.82	.06	.28	.68		.10						T.		.33	.21		3.68
Fairfield	Wabash							T.	.21	.04			1.07			1.59	.16	.56	.33		.62								.02	.05		4.65
Flora	do							.02	1.34	.02			.57			1.21	.28	T.	.03		.22						.03		T.	.05		3.77
Golconda	Ohio								.20				1.90		T.	.33	.18	.54	.16		.21						T.		.06	.38		3.96
Hoopeston	Wabash							T.	.45			.01	.14			.26	.81	.04			.16	.05	.01				.24		T.	.25	.02	2.44
McLeansboro ‖	Ohio								T.	T.			.59	.43		.82	.65	.05	.86	.16	.30									.17		4.03
Metropolis	do												.28			.55	.15	.23	.05	.06	.09								.33			1.74
Montrose	Wabash								T.			.13	.22			1.17	.42	.10	.02		.17	T.					.05		T.	.02		2.30
Mount Carmel ‖	do							T.	T.	T.			.69	.26		.19	.61	.12	.50	.02	.35	.03								.11		2.88
New Burnside ‖	Ohio								T.	.06			.05	2.11		.25	.48	.06	.15	.30	.10									.45		4.01
Newton	Wabash												.52			1.42	.18	T.	.12	.03	.28					.01					T.	2.56
Olney ‖	do								T.				.80	.10		.25	1.60	T.	1.00		.24						T.			.05		4.04
Palestine	do						T.	T.	.11				.26			1.33	.13	.46	.49		.35						.01		.04	.05		3.23
Paris ‖	do												.80			T.	2.50	.10	T.		.15	.07	T.							T.		3.62
Philo	do							1.04					.62			.97	.66	.47			.35						.23		.05	.07		4.46
Rileyville	Ohio								.19	.09			.95		T.	.93	.14	.08	.55		.17								T.	.20		3.30
Shawneetown ‖	do									T.				.85		.35	.20	.15	.20	.43	.09					.03	.01		.74	.02	3.07
Sidell	Wabash												.54			.65	.88		.52		.04							.09		.06		2.78
Tuscola	do							.13	.03				.84			.63	.92	.31	.01		.24	.01					.20		.06	.05		3.43
Urbana	do						T.	.01	T.				.33	T.		.70	.64	.01	T.		.39	T.					.21		.15	.06		2.50
Kentucky.																																
Alpha	Cumberland			T.		.20	.20	.06	.35						T.	T.	T.	.45	.30	T.	.26							T.		.30		2.12
Anchorage	Ohio							.25	.03							.05	.03	.55	.18	.02	.08	T.							T.	.68	.35	2.22
Bardstown ‖	Salt								.03	1.04				.06			.06	.25	.95			.27								.31		2.97
Beattyville ‖	Kentucky													.44			T.	.32	.58		.10	.36								.64	.62	3.06
Beaver Dam ‖	Ohio													.20		.30	.08	.02		.03	.18	.03								.66		1.50
Berea	Kentucky							.18	.12					.01		T.	T.	.43			.73	T.								.68		2.15
Blandville	Mississippi							.04	.02		T.		.30			.45	.31	.10	.30		.12						T.		.49	.05		2.18
Bowling Green ‖	Green			.03						.20				.03	.03	.07	.10	.03	.10	1.00	.10	.33						.03		.68	.37	3.10
Burnside ‖	Cumberland						.21	T.	.07	T.				T.		.06	T.	.10	.28	T.	.46	.16								.10	T.	1.44
Calhoun	Green						.03	T.	T.				.15		T.	.70	.20	.04	.25		.31	T.					.05		.20	.22	.01	2.16
Catlettsburg ‖	Big Sandy													.42			.30	.28	.22	.02										.06	.88	2.58
Earlington ‖	Green									.08				.15		.16	.31	.04		.02	.11	.17								.53		1.57
Edmonton	do			T.				.26	.46						.05	.10	.13		.12		.39	T.							.08	.52		2.11
Eubank ‖	Cumberland									.56						.10		.12	.66			.95								.34	.33	3.06
Falmouth ‖	Licking			.08				.50					.43	.31			.10	.30	.58	.12	.20		T.							.56		3.18
Farmers	do							.42	.10									.51	.12	1.00	.25										1.30	3.70
Frankfort ‖	Kentucky				T.				T.	.50			T.	.33		T.	.03	.09	.15	T.	.02	.31	T.							.23	.10	1.76
Franklin	Green								T.				T.		T.	.11	.41		.05		.20	T.					T.	T.	.10	.71		1.58
Greensburg ‖	do				.20				.03	.23				.07		.07	.08	.40	.01	.08	.05	.20							.03		.51	.51	2.47
Hazard ‖	Kentucky																															
High Bridge ‖	do				.06					.44				.03			.05	.32	.03	.02		.05	.02							.12	.13	1.27
Hopkinsville ‖	Cumberland						T.							T.		.12	.67	T.	.05	.10	.05	.23						.04		1.20	T.	2.46
Irvington	Ohio									.43			.77			.25		T.	2.18		.48	T.							T.	.46		4.57
Jackson ‖	Kentucky													.01		.02	.12	.12	.64			.63								.15	.21	1.90
Leitchfield	Green						T.		.02				.13		T.	.15			.08	.20	.50								*	.87		1.95
Lexington	Kentucky			.04				.45	T.			.02	.37			.02	.27	.09		.01	.20						T.		.05	.10	.14	1.76
Loretto	Salt								.05	.65			.38	T.		.05	.22	T.	.02	.07	.25									.62		2.31
Louisa ‖	Big Sandy													.20			.19	.07	.17	.12	.48									.68	.07	1.98
Louisville (1)	Ohio							T.	.14				.18			.03	.01	.42	.33	T.	.24	T.					T.		T.	.35	.15	1.85

TABLE 2.—*Daily precipitation for September, 1913. District No. 3*—Continued.

Stations.	Watershed.	Day of month.																												Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
***Kentucky*—Con.**																																
Louisville (2)	....do									.08			.23			.03	.06		.40	.27	.27									.44	.15	1.92
Manchester ‖	Kentucky									.60								.10	.02	.56	.23										.28	1.79
Marion	Ohio																															
Maysville ‖	....do			T.				.80	.15	.23			.27	.35			.07	.15	.06	.10	.03	.47	.04							.52	.22	3.46
Middlesboro	Cumberland														.40	.04		.17	.38	.37	.03									.41		1.80
Mount Sterling ‖	Licking							T.	1.02				.20	.28			.03	.05	.18	.21	.19	.48								.18	.24	3.06
Owensboro ‖	Ohio									.74				.75		.25	.57	.05	.87	.22	.05	.36						.03		.36		4.25
Paducah ‖	....do								T.	T.				.24		.25	.22			1.25	.25									.44		2.65
Pikeville ‖	Big Sandy									.70				T.		T.	.20	T.	1.50	.10	.10	.70	.10								.10	3.50
Richmond ‖	Kentucky								T.	.10			.63	.15	.11	.05	.06	.09	.35		.03	.62								.45	.43	3.07
St. John ‖	Salt								.04	.44				.13			.12	.05	1.10	.01	.01	.25								.33	.06	2.54
Scott	Licking			T.			T.	.84	.04				.28			T.	.38	.40	.22	T.	.17	T.	.03				T.			.36	.02	2.74
Shelby City	Kentucky			.09	.05					.05			.07				.05	.14		.11	.20									.82	.05	1.63
Shelbyville ‖	Salt				.05					T.				.19		T.	T.	.31	1.95	.02	.20	.22							.52			3.46
Taylorsville	....do						.40	.52					.58			.03	.40	.04	.57	.01	.33	.01	T.				T.	T.	.02	.25			3.16
Williamsburg ‖	Cumberland						.03			.28						.38	.05	.03	.62	.03	.05	.84						T.		.16	.14	2.61
Williamstown ‖	Licking				T.			.21	.02				.33	.10		T.	.50	.22	.65	.65	T.	.20	T.							.23		3.11
***Tennessee*.**																																
Ashwood	Tennessee				.15										T.		.30	.05	.15		.07								T.	1.05		1.77
Benton	....do				T.	T.										.05		.05	.67		.70									1.35		2.82
Birds Bridge	....do									.42					.03	.20	.42	.03	.33	.52	.32	.82	.08							.12	.61	3.90
Bluff City	....do							.12		.67						.05	.07	.33	.57	.42		.93	.05								.79	4.00
Byrdstown	Cumberland															.30		.20	.03	.35	.28									.45		1.61
Carthage	....do						.10		.02							.05	.09		.07		.01									.41	.15	0.90
Cedar Hill	....do					T.		T.	.06				T.		.11	.17		T.	.05		.20						T.	.10	.25	.95		1.89
Celina	....do				T.											.11	.07	.48	.22	.05	T.	.17						T.		.38	.03	1.51
Charleston	Tennessee							.20							T.	.02	.07	.04	.77	.18		.30								.92	.62	3.12
Chattanooga	....do					.02	.02								.01	.46	.03	.35	.91	.01	.22								.07	1.62	.02	3.74
Clarksville	Cumberland				T.								T.	T.	.10	.16	.31	T.	.05		.05	T.					T.	.03	.41	.54	T.	1.65
Clinton	Tennessee															.05		T.	.60	.32		1.20								.40	.55	3.12
Crossville	....do								.05										1.00		.63									1.05	T.	2.73
Dandridge	....do															.10			1.10	.58		.76								.08	1.04	3.66
Decatur	....do				.01	.45	T.							.05	.05	.13	.01	.05	.96	.03	.43	.06								1.38	.08	3.69
Dickson	Cumberland				.10										.06	.15			T.		.15								.55	1.12		2.13
Dover	....do							.20	T.				T.		T.	.44	.30	T.	.20		.19								.77	.55	T.	2.65
Dunlap	Tennessee			.50			.08			.03					.03	.20	.15	.18	.72		.95										2.00	4.84
Elizabethton	....do			.13						.15						.14	.25	.24	.15	.79	T.	.95	.45							.40	.20	3.85
Erasmus	Cumberland			T.	T.	.07			.19	T.					.12	.26	T.	.21	.61	.09	.76									1.30		3.61
Florence	....do			T.					.25						T.	.10	.40	.31	.01		.54								.02	.52	T.	2.15
Franklin	....do				.14	T.											.40	.05	.21		.24									1.37		2.41
Halls Hill	....do						.05									T.		.34	.13			.32								.17	.36	1.37
Hohenwald	Tennessee					.11		.13							.04	.10		.10			.25							.04	.10	1.55		2.42
Iron City	....do			T.	.18	.75									T.	T.		.02	.90	.02	T.								.60	1.66		3.53
Jefferson City	....do								.05						.12			.04	1.30		.13	1.27	.04							.56		3.51
Johnson City	....do				T.					.60					T.	.15	.40		.57			1.43	T.								.42	3.57
Johnsonville	....do				T.			.30							.15	.29	.66	T.	.10		.04							T.	.80	.18			2.52
Kingston	....do					.23	T.							.09	.02	.24	.02	.02	.89	.15		1.45								.93	.47	4.51
Knoxville	....do				T.	T.			.01				.02		.10	.01		.37	1.09	T.	1.01	.03								.67	.03	3.34
Lebanon	Cumberland				T.										.02	.05	.69	.41	.02	.19	.37	T.						T.	.06	.52	T.	2.43
Lewisburg	Tennessee		T.	T.		.08	.28			T.					.02	T.	.88	.31	.22		.09							T.	T.	1.30	.03	3.21
Liberty	Cumberland						.04											.12	.18			.21								.10	.15	0.80
Loudon	Tennessee						T.	T.							T.	.20	T.		1.12	.32		.30								.64	.72	3.30
Lynnville	....do					.20								.05	T.	T.	1.16	.13	1.21	T.										2.33		5.08
McGhee	....do						.20								.09	.11	T.		1.46	.54		1.12								.54	.44	4.50
McMinnville	Cumberland										.03					.07	.18	.08	.60	.23	.50									1.00	.06	2.75
Maryville	Tennessee																															
Mountain City	....do					.49			.15							.18	.49	.10	.69		.03	1.17								.49		3.79
Nashville	Cumberland			.05		.01			T.				T.		.07	T.	.17	.02	.34	T.	.05	T.						.02	.96	.10	T.	1.79
Newport	Tennessee							.14		T.					T.	.12	.30		.50	.36		1.05	.05							T.	.80	3.32
New River	Cumberland									.25							.12	.97	T.			.58								.15	.56	2.63
Palmetto	Tennessee			.12			.16			.41					.10	T.	.42	.14	.13	.02	.08	T.							T.	1.20	.06	2.84
Perryville	....do				.15			.16	.13						.23	.21	1.26	.16	.48										.96	.86		4.60
Pinewood	....do					T.		T.	T.	T.					T.	.10			T.										.60	1.25		1.95
Rogersville	....do					T.				.66						.10	.04	T.	1.12	.22		1.00								.20	.40	3.74
Rugby	Cumberland						.32	T.	T.							T.	.15	.40	.66		.62									.60	.04	2.79
Savannah	Tennessee				T.	.03				.31					.27	.10	3.20	.15	.03										.12	.30	1.86		6.37
Sevierville	....do														.12	.01		.10	1.37		.25	.75								.71	.10	3.41
Sewanee	....do		T.		T.	T.				T.										2.23										1.73		3.96
Sparta	Cumberland													T.		T.	.08	.17			.20									1.00		2.35
Springville	Tennessee							.95					.06		.35	.46	.66	.04	.22		.20						T.		.61	.56		4.11
Tazewell	....do									.19				T.		.28			.63	.10	T.	.98								.28	.68	3.14
Tullahoma	....do					T.	.12			.07					.01	.01	.12	.10	1.21	1.11	.25									2.58		5.60
Walling	Cumberland															.10	.06	.10	.65	.10	.02	.50								.75	.02	2.30
Waynesboro	Tennessee		.05	T.	.10	.05									.10	.12	T.	.10	T.		.08						T.	T.	.99	1.36		2.95
Wildersville	....do							.55							.28	.52	1.10		T.		.17								.62	.53		3.77
Worsham	Cumberland					.05			.34						.44		.44		.05		.21							.02	.62			2.17
Yukon	Tennessee								T.					T.	T.		.57	.08	.30		.13								3.30		4.38
***Alabama*.**																																
Bridgeport ‖	Tennessee			.01	.15											.02	.21	.29	.66	.52		.55								1.47	1.24	5.12
Decatur ‖	....do				.03		.22		.11		T.					.05	.24	.23	.49	.27											1.26	1.81	3.71
Florence	....do			.01	.04	.17	.01	T.	T.	.02					.15	.06	.06	.09	.06	.14	.04									.70	1.69	T.	3.24
Guntersville ‖	....do	.05			.16	.04			.04		.20					.05	.02	.32	.45	.15		.30								2.60	2.30	6.68
Madison	....do										.22						.15	.84											.40	2.50		4.11
Riverton ‖	....do				.10	T.										.26		.05	.08			.14						.02		1.02	1.00	2.67
Scottsboro ‖	....do		.02	T.	T.	.49	.03			T.					T.	T.	T.	.38	1.40		.56									3.05	.35	6.28
Tuscumbia ‖	....do					.09										.15		.10	.30	.62										.94	1.60	3.80
***Georgia*.**																																
Mineral Bluff	Tennessee			.03						.01						.01	.02	.01	.02											1.72		1.82

TABLE 2.—*Daily precipitation for September, 1913. District No. 3*—Continued.

Stations.	Watershed.	Day of month.																												Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
North Carolina.																																
Altapass	Tennessee	1.20			1.50				.10							.90	.40	.20	.10			1.40								.60	.20	6.60
Andrews	do				.05	.09	.08			.84					.11	.04	.03		.40		.64	.90								1.15	.03	4.36
Asheville	do		T.	.12	.21				T.					.43	.11	.51	.21	.04	.23	T.	1.19	.43								.66	.01	4.15
Banners Elk	do		.16		2.00				.10							.10	.20	.20	.45			2.10								.50	.35	6.16
Blantyre	do		.18		.96	.93										.61	.82	1.20	.16	.11		.11	1.70							.59	.31	7.68
Blowing Rock	Great Kanawha		1.01		1.75											.67	.57					.98	1.48						.02	.65	.19	7.32
Brevard	Tennessee	.05			.86	.36	.01	.01	.02					.02	1.00	.50	.92	.12	.34	.03	.21	1.19		.02	.02		.02	.03		.47	.19	6.39
Bryson City ‖	do					.28									.30	.13	.05		.16	.24	.99								.36	.59	3.10
Cane River	do				.30		.21		.09	.02					.10	.25	.16		.19		.02	.79							.73	.02	2.88
Cullowhee	do				.33	.37				.05				.72	.14	T.	.46		.09		.05	1.12							.66	T.	3.99
Ellijay	do				.38	.35	T.			.04					.18	.09	.30	.04	.08	T.	.12	.87							.70	.20	3.35
Highlands	do		.45		.28	.92	.08		.17						.28	.60	2.65	.52	.03		.12	.96							1.62	.15	8.83
Hot Springs	do								.90						.32	.33	.23	.35		T.		1.00							.48		3.61
Jefferson	Great Kanawha		.17	T.	1.13	1.03			.21							.40	.51	.25	.42	.13	.26	1.58							.60		6.69
Marshall ‖	Tennessee				.40				.12							.25	.63	.03	.20	.20		.80							.17	.50	3.30
Murphy ‖	do				T.	.15	.07				.80				.48	.10	.05		.30	.33	T.	.50							.37	1.09	4.24
Rock House	Savannah	.60	.06		1.15	.87	.05		1.05						.10	.80	1.66	.41	.10	.04	1.00	.26							1.64		9.79
Transon	Great Kanawha		.12		1.77	1.32			.41							.28	.42	.17	.30	T.	1.55	1.91							.58		8.83
Waynesville ‖	Tennessee			.30	.38	.20		T.							T.		.36	.10	.05	.18		.98							T.	.40	2.95
Virginia.																																
Blacksburg	Kanawha			.15	.47				.45							.07	.04	.19	.18			1.39								.05		2.99
Burkes Garden	Tennessee				.15				.33							.17	.28	.22	.52		T.	1.45								.50		3.62
Elk Knob	do								.24				T.	.19	.05	.03	.04	.28	.72	T.	.20	.72								.50	T.	2.97
Ivanhoe ‖	Kanawha	T.		T.	.42	.02	.02			.56				.04			.20	.26	.14	.30	.15	1.70	.20							T.	.50	4.51
Max Meadows	do		.02	.30	.12				.08										.45			1.98						T.		.41		3.36
Mendota ‖	Tennessee							.15		.60				.12		.22		.08	.22	.80	.30	.90	.22								1.02	4.63
Mountain Lake	Kanawha															.05	.18		.60	.05		1.33								.25	.05	2.51
Radford ‖	do				.52	.34											.10	.20	.25	.10	.21	1.80	T.								.21	3.73
Speers Ferry ‖	Tennessee									.53				.04		.20	.16		.98	.33											1.30	3.54
Wytheville	Kanawha		.05	.20	.12				.16				.01			.07	.34	.06	.32		.26	.75								.55		2.89

* Precipitation included in that of the next measurement.
‡ Separate dates of falls not recorded.
‖ Precipitation for the 24 hours ending on the morning when it is measured.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 3.—*Maximum and minimum temperatures at selected stations for September, 1913. District No. 8, Ohio Valley.*

Date.	Pennsylvania.				West Virginia.														Ohio.							
	Greenville.		Pittsburgh.		Charleston.		Elkhorn.		Elkins.		Glenville.		Huntington.§§		Parkersburg.		Wheeling.§§		Canton.		Cincinnati.		Columbus.		Dayton.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	87	52	87	59	90	70	85	59	86	52	91	51	93	54	90	60	86	55	90	56	97	68	91	66	94	65
2	94	53	90	61	92	65	87	67	86	57	92	60	93	60	91	64	90	58	95	59	96	70	94	68	98	67
3	93	57	89	65	90	65	80	58	83	52	90	59	88	63	87	65	93	61	94	61	97	71	94	70	97	67
4	91	63	87	66	88	64	77	67	84	62	88	59	88	62	88	66	92	61	90	63	91	69	88	63	87	65
5	85	60	89	67	91	66	85	62	88	57	90	60	92	64	91	67	93	62	90	58	92	67	91	62	91	61
6	91	48	92	68	92	70	87	60	90	59	93	60	90	65	94	69	95	63	92	59	92	70	93	68	93	66
7	92	61	88	67	90	69	86	60	87	61	90	59	88	65	78	70	85	67	89	64	91	71	88	72	91	69
8	78	63	78	63	82	70	82	63	76	63	82	60	85	69	79	65	81	69	77	64	86	65	80	58	82	60
9	73	45	72	56	80	64	78	62	74	49	80	56	81	61	76	57	77	53	71	50	78	58	75	54	77	55
10	76	35	72	48	79	54	75	54	72	41	83	44	81	51	76	52	78	45	77	43	82	56	76	53	81	51
11	80	33	80	48	80	52	79	44	77	40	81	42	88	48	81	48	83	46	83	40	88	58	84	52	87	53
12	69	46	66	58	84	61	80	55	75	49	85	44	81	55	73	62	63	47	65	55	71	60	67	56	70	56
13	72	41	63	50	71	63	72	59	66	42	72	47	70	55	66	52	71	49	65	45	67	52	65	47	65	48
14	66	27	64	45	68	47	70	47	69	37	70	54	68	46	65	46	67	39	66	35	66	50	62	45	64	45
15	72	37	71	44	71	56	60	55	70	41	72	44	72	53	74	53	74	41	75	40	74	56	73	50	73	50
16	68	47	66	60	74	59	65	54	71	55	75	54	77	57	69	56	65	45	64	46	76	61	74	54	74	58
17	67	56	66	60	74	63	70	59	63	53	70	44	70	57	68	61	66	57	70	54	74	66	72	63	71	65
18	65	56	64	59	76	65	69	60	71	58	75	55	76	63	70	62	64	61	67	57	71	63	66	58	66	58
19	75	52	70	58	77	64	73	55	70	58	80	56	77	63	75	59	74	57	76	45	75	60	74	55	75	57
20	81	51	78	62	83	67	79	57	79	54	82	57	81	60	82	60	82	56	78	52	76	52	76	51	74	49
21	62	49	64	48	70	53	75	38	62	44	70	58	56	52	60	50	56	53	56	49	53	45	55	45	52	44
22	52	37	52	44	67	49	58	42	51	34	68	42	63	46	57	43	57	45	50	43	56	43	52	41	50	39
23	65	28	63	38	72	42	68	32	64	31	72	35	69	38	67	37	69	35	65	31	73	40	66	36	69	34
24	77	35	78	46	79	49	75	44	79	35	80	43	78	40	79	45	81	36	79	38	82	53	78	50	80	56
25	83	36	80	52	80	50	78	46	80	41	81	44	79	42	79	48	81	34	83	45	79	54	78	55	76	58
26	79	43	78	53	80	55	76	48	77	42	82	45	78	50	82	52	88	51	78	51	69	53	74	48	65	48
27	66	42	65	49	77	58	70	56	64	42	78	46	69	50	64	49	71	48	67	42	68	46	66	42	67	41
28	76	31	76	44	79	46	75	52	76	36	80	54	80	45	79	41	80	42	78	35	78	50	74	46	74	43
29	69	44	69	62	78	64	70	64	72	58	79	53	68	49	74	63	80	42	72	55	75	65	68	62	73	64
30	78	60	78	62	79	62	76	63	78	60	78	55	79	64	80	65	80	60	82	60	82	61	79	59	79	61
Mns.	76.1	46.3	74.5	55.4	79.8	59.4	75.3	54.7	74.7	48.8	80.3	51.3	78.6	54.9	76.5	56.2	77.4	51.3	76.1	50.1	78.5	58.4	75.8	55.0	76.5	55.0

Date.	Ohio.				Indiana.										Philo, Ill.		Kentucky.									
	Marion.		Waverly.§§		Butlerville.		Evansville.		Indianapolis.		Kokomo.		Rockville.		Worthington.				Beattyville.§§		Bowling Green.§§		Earlington.§§		Greensburg.§§		Lexington.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	91	61	93	52	97	66	97	70	94	66	95	61	101	65	96	64	99	59	99	52	101	60	106	65	99	56	94	67
2	92	62	95	57	99	65	97	73	96	71	98	61	102	67	96	66	100	64	97	55	103	61	105	67	102	62	96	72
3	98	65	93	59	98	64	99	76	96	74	96	63	102	66	98	67	100	65	95	56	102	65	105	66	103	62	95	69
4	84	64	91	59	90	66	96	74	83	67	86	63	92	65	91	69	92	66	91	55	99	69	103	67	95	64	91	70
5	88	62	92	61	91	63	90	71	88	63	89	60	93	63	90	67	92	62	99	58	95	68	96	67	94	65	91	69
6	94	60	96	63	96	65	91	73	92	69	82	62	96	66	90	67	95	67	100	59	96	66	99	69	95	66	92	70
7	88	60	96	66	95	69	89	76	86	72	91	65	96	71	88	74	95	68	97	63	96	66	95	70	97	66	86	70
8	81	68	85	66	90	63	90	70	82	63	83	68	92	65	89	66	86	67	94	63	96	68	97	69	95	67	86	69
9	81	49	77	52	81	58	82	66	78	53	79	48	83	56	78	66	80	57	87	64	91	64	93	67	87	65	79	60
10	85	44	78	48	86	52	89	59	82	51	84	44	87	50	84	55	84	50	90	52	94	58	97	58	94	55	83	57
11	82	42	87	44	91	57	88	69	89	60	88	48	93	59	87	60	90	56	91	49	92	59	95	63	91	63	86	62
12	71	59	72	50	81	62	74	60	69	56	78	58	74	59	75	56	69	56	90	57	86	62	81	63	90	59	80	61
13	71	41	67	49	68	44	70	55	67	49	69	43	71	49	66	50	69	46	77	50	78	55	77	52	75	54	66	52
14	72	41	65	40	70	45	70	54	69	47	72	40	74	46	70	48	72	47	78	44	74	55	72	56	66	53	67	49
15	76	41	74	50	72	52	71	56	71	52	66	45	62	51	66	55	63	50	74	53	75	59	76	60	74	60	77	57
16	74	54	77	55	80	60	75	64	71	62	71	60	75	61	70	63	73	61	87	57	74	60	80	64	73	61	77	61
17	73	62	71	57	74	65	77	67	70	62	75	64	77	66	72	66	76	62	68	60	77	60	80	65	71	62	71	64
18	67	57	72	63	73	64	71	62	65	58	69	56	69	57	69	60	71	56	82	60	84	60	75	65	79	61	76	62
19	74	45	76	58	70	63	76	62	74	58	72	49	76	58	72	62	76	54	82	59	78	60	81	58	81	61	74	62
20	58	56	80	59	70	57	67	52	64	45	57	49	66	48	70	52	66	47	81	57	69	57	69	61	72	60	74	49
21	57	45	60	46	57	44	56	49	50	41	50	43	53	45	52	47	51	45	62	43	60	44	61	47	63	43	54	43
22	53	40	58	43	52	40	62	43	47	40	49	39	53	40	54	42	54	39	68	40	72	37	71	37	70	36	60	42
23	64	28	70	30	76	36	78	46	72	37	71	29	76	37	75	41	72	38	81	33	83	41	86	44	84	37	75	40
24	68	48	79	40	81	52	80	57	79	55	80	53	79	55	77	53	79	53	87	37	85	47	89	52	84	43	81	53
25	74	49	80	42	79	53	77	58	77	57	78	42	80	53	75	52	77	49	87	44	85	47	86	50	85	43	79	54
26	68	52	82	43	67	55	66	54	63	48	69	48	66	49	67	53	63	47	85	45	73	55	63	57	79	49	77	55
27	71	34	66	46	69	43	67	51	67	44	66	33	69	36	66	42	66	36	87	48	70	53	79	55	72	56	68	51
28	69	40	78	35	78	42	69	57	72	49	70	38	72	44	70	59	63	45	75	45	82	53	76	55	84	51	78	51
29	69	60	68	37	78	63	79	64	76	63	74	38	82	62	76	60	76	59	68	60	74	58	80	65	74	54	71	64
30	76	63	78	61	82	53	79	64	78	57	80	53	84	55	78	57	75	53	83	60	85	62	86	60	84	65	80	65
Mns.	75.6	51.8	78.5	51.0	79.7	56.0	79.1	61.7	75.6	56.3	76.2	50.8	79.8	55.5	76.9	58.0	77.5	54.1	84.7	52.6	84.3	57.6	85.3	59.8	83.7	56.6	78.8	59.0

TABLE 3.—*Maximum and minimum temperatures at selected stations for September, 1913. District No. 3*—Continued.

Date.	Kentucky.						Tennessee.														Decatur, Ala.§§		Asheville, N. C.		Virginia.			
	Louisville.		Maysville.§§		Williamsburg.§§		Chattanooga.		Johnson City.§§		Knoxville.		Nashville.		Palmetto.		Sparta.		Waynesboro.						Blacksburg.		Wytheville.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1....	96	68	100	57	97	50	94	67	97	60	92	62	95	67	97	67	94	58	98	64	94	65	84	61	87	51	86	54
2....	98	72	101	59	97	58	95	69	92	63	94	66	97	70	99	68	96	63	98	66	97	68	87	61	83	56	84	58
3....	97	71	98	59	96	56	93	69	81	59	92	67	99	71	101	66	96	60	100	65	98	69	81	58	75	53	75	54
4....	93	72	96	61	91	59	84	71	90	61	80	71	96	75	98	69	94	69	97	66	96	72	67	63	79	62	72	62
5....	91	69	96	63	92	61	87	70	97	63	89	67	86	68	85	67	95	64	83	65	84	70	79	66	85	57	80	61
6....	89	72	96	63	94	62	86	72	90	61	91	69	91	69	90	68	95	65	92	68	90	69	81	63	87	60	83	58
7....	90	74	78	65	96	58	90	69	101	61	91	68	92	71	96	69	94	62	90	70	92	71	83	60	87	59	85	60
8....	92	72	87	66	92	60	93	67	91	60	90	67	91	70	95	68	93	60	93	70	92	68	84	55	82	58	81	61
9....	82	65	83	56	89	64	90	70	89	59	88	64	91	70	97	67	92	60	93	67	90	69	76	58	74	52	72	50
10....	88	59	86	50	88	60	84	67	89	60	83	65	89	67	87	67	91	60	94	70	86	71	68	54	68	40	68	43
11....	88	65	92	50	85	57	83	63	90	53	83	59	88	69	89	62	92	62	88	62	85	61	78	44	78	36	77	38
12....	75	60	77	53	90	61	86	62	92	53	87	63	86	66	89	62	90	57	89	58	87	61	82	53	81	49	80	52
13....	70	52	71	50	88	70	81	65	83	53	81	65	78	64	79	64	81	62	75	64	84	62	79	59	76	52	73	48
14....	69	51	68	42	85	68	73	62	66	52	66	58	67	58	80	62	73	59	74	61	80	65	65	53	62	44	62	48
15....	76	57	76	47	73	61	65	60	72	49	70	61	74	64	73	66	72	.....	71	58	83	63	57	50	58	48	57	51
16....	74	64	82	55	84	61	71	60	80	48	81	59	71	63	72	62	76	62	76	63	84	60	64	54	60	53	58	52
17....	76	65	72	58	71	63	69	64	73	50	71	65	73	66	70	65	74	65	71	63	71	58	71	58	68	54	66	55
18....	75	64	77	60	76	63	73	64	71	55	69	64	77	64	80	65	79	68	83	63	75	65	69	61	67	59	65	60
19....	76	64	78	61	77	60	80	62	89	55	79	62	80	62	80	62	79	63	86	55	81	62	75	60	73	59	74	59
20....	66	49	82	60	78	58	77	59	84	52	78	58	71	53	71	61	74	56	73	58	75	63	76	57	80	61	77	59
21....	56	46	60	45	64	40	61	49	62	42	60	47	61	48	64	48	60	45	65	45	64	53	59	44	68	45	59	41
22....	59	43	63	42	67	37	70	41	65	32	67	43	72	43	75	45	70	37	74	34	72	41	61	36	57	34	55	38
23....	77	43	80	35	74	38	76	46	80	38	74	43	79	47	82	48	80	40	81	39	78	43	73	36	70	32	70	34
24....	80	56	86	36	80	42	78	49	80	42	78	48	80	54	83	49	82	43	81	44	78	46	72	41	73	32	74	38
25....	78	59	83	45	81	43	80	51	82	45	77	51	80	53	84	47	82	44	83	45	82	49	74	44	76	36	74	40
26....	67	56	82	46	78	42	81	55	80	45	79	51	75	58	79	57	80	50	77	55	80	49	77	45	79	36	78	43
27....	71	50	76	49	82	57	78	62	76	45	77	61	74	57	80	60	76	60	76	59	82	60	74	51	70	41	69	56
28....	73	53	85	43	80	54	83	62	80	53	79	60	79	61	84	66	85	56	81	63	83	63	66	56	70	53	72	55
29....	80	65	72	52	71	50	69	64	81	55	68	64	78	67	80	66	74	66	75	67	74	69	64	58	71	45	72	56
30....	80	66	86	63	83	58	82	66	82	58	81	66	85	67	86	68	82	64	86	69	82	67	77	60	80	60	77	57
Mns..	79.4	60.7	82.3	53.0	83.3	55.7	80.4	61.9	82.8	52.7	79.8	60.5	81.8	62.7	84.2	61.9	83.4	57.9	83.1	59.8	83.3	61.7	73.4	54.0	74.1	49.2	72.5	51.4

[a], [b] [c], etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.

CLIMATOLOGICAL DATA FOR SEPTEMBER, 1913.

DISTRICT NO. 4, THE LAKE REGION.

Prof. HENRY J. COX, District Editor.

GENERAL SUMMARY.

In practically all sections of the Lake Region the first week of September, 1913, was characterized by temperatures much above the normal and a continuation of the absence of precipitation, this latter condition being felt most severely in eastern and southern portions where the drought of some three months duration was still acute, it being the driest summer season in many years. Following this period of hot dry weather, the temperatures averaged generally below the normal during the remainder of the month, cool spells being quite frequent with days of moderate warmth between. The first general rains, however, did not occur until the middle of the month and together with those which followed during the third decade effectually broke the long continued drought. At Erie, Pa., September was the sixth consecutive month with precipitation below the normal, the accumulated deficiency since April 1, 1913, being 5.21 inches. In the States of New York and Vermont the rainfall for the past five and four months, respectively, was also below the normal, the deficiency in the former State averaging 4.54 inches and in the latter, 5.06 inches, for the respective periods. Although during the latter half of the month rains were frequent and well distributed, the total monthly fall was slightly below the average in all portions of the district, except Wisconsin and upper Michigan.

The month was unusually free from severe storms of any description, the only one of consequence being that of the 20th–21st. This storm caused heavy northwest gales with snow over Lake Superior and northern Lake Michigan, a maximum velocity of 48 miles an hour being reported from Duluth, Minn.

Taken as a whole, the month was one of pleasant weather, and conditions in most localities were favorable for outdoor work and the gathering of fall crops.

The following table summarizes the chief features of meteorological interest in the various portions of the district:

Portions of States.	Mean temperature.	Departure from normal.	Mean daily range.	Mean precipitation.	Departure from normal.	Greatest precipitation in 24 hours.	Mean snowfall.	Number of days. With 0.01 inch or more precipitation.	Clear.	Partly cloudy.	Cloudy.	Prevailing wind direction.
Minnesota	54.6	−0.7	15.8	2.83	−1.65	1.22	T.	8	16	6	8	ne.
Wisconsin	59.6	−0.8	15.4	3.72	+0.38	2.60	0.1	9	15	6	9	se.
Illinois	65.4	+0.8	12.6	1.49	−1.53	0.93	0	9	12	10	8	se.
Indiana	63.5	−0.9	21.4	2.14	−0.51	1.22	0	9	14	6	10	ne.
Upper Michigan	55.9	0.0	16.3	3.83	+0.23	2.00	0.4	9	14	6	10	s.
Lower Michigan	61.2	−0.4	19.5	1.89	−0.98	1.65	0	7	15	7	8	sw.
Ohio	63.5	−1.5	16.6	2.22	−0.61	1.25	T.	9	14	7	9	sw.
Pennsylvania	62.6	−1.3	15.5	1.60	−1.80	1.35	0	6	8	12	10	s.
New York	58.9	−1.9	19.8	2.21	−0.72	2.77	T.	7	15	9	6	sw.
Vermont	58.4	−1.3	25.4	2.60	−0.43	2.42	0	7	14	7	9	s.

TEMPERATURE.

During the exceptionally hot weather mentioned above, from the 1st to the 7th, inclusive, maximum temperature records for September were broken in the western and southern portions of the district. At Appleton, Wis., 101° occurred on the 2d, this reading being the highest temperature ever recorded in September in that portion of Wisconsin which drains into the Lakes. At Chicago, Ill., new maximum temperature records were established for the individual days of September 1 and 2, with high readings of 95° and 97°, respectively. Unusually high maximums for the season were also reported from Indiana and Ohio during this period, and the following table gives the extremes in 1913 for Indiana as compared with those in past years:

	September, 1913.	Previous record.
Auburn	98° on the 2d.	97° on Sept. 16, 1897.
Berne	99° on the 2d.	94° on Sept. 10, 1912.
Hammond	102° on the 2d.	100° on Sept. 5, 1899.
Whiting	100° on the 2d.	95° on Sept. 6, 1912.

In Ohio maximum temperatures of 100° occurred at Findlay, Montpelier, Napoleon, and Norwalk on the 2d and at Hedges on the 3d, and previous high records were broken or equaled at eight additional stations. The highest temperature reported in New York State was 100° at Keene Valley on the 3d, this reading being 4° higher than the previous highest maximum in the portion of the State lying within this district.

Following this heated term cooler weather overspread the greater portion of the Lake Region, and on the morning of the 10th heavy frosts occurred over Vermont and eastern New York. This cool period was quickly followed by another cool high area which developed marked intensity during the night of the 13th, and heavy and killing frosts—the most severe of the season thus far—occurred on the mornings of the 14th and 15th over all portions except the extreme west and south. These frosts were remarkably early and caused much injury to fruit and garden truck, particularly in the interior of New York State. In the vicinity of Rochester, N. Y., these frosts are said to have been the heaviest experienced by gardeners in September in years, and melons, cucumbers, and tomatoes, and even the more hardy vegetables were seriously damaged; while in the tobacco region near Syracuse, N. Y., it was reported that several thousand dollars damage was done to that crop. In Michigan, also, considerable injury occurred as a result of the heavy frost of the 14th, and the corn, potato, and bean crops were reported practically destroyed in the northeastern portion of that State. Freezing temperatures were general during this period, and at Northfield, Vt., the minimum of 22° on the 15th was the lowest ever observed at that station in September.

Another cool period overspread the district from the 21st–23d, during which heavy and killing frosts occurred over Indiana and Ohio, much damage being done to late corn and vegetables. The night of the 22d–23d was one of the coldest on record in September in those States, the lowest readings being 28° at Auburn, Ind., and at Bucyrus and Medina, Ohio.

During the remainder of the month the temperature was close to the normal, with a return to more seasonal conditions, although September, as a whole, averaged slightly below the normal, with the greatest departures over eastern sections.

PRECIPITATION.

The lack of sufficient precipitation which was felt over most of the district at the close of August continued throughout the first half of September, and this need of moisture was further increased during the first week of the month by reason of the unusual period of heat, mentioned in the discussion on temperature. Except in the extreme western portions, the showers which fell during the first 15 days of the month were light and local in character. On the 16th and 17th, under the influence of a slow-moving disturbance from the southwest, general rains set in over practically all sections, and during the third decade, especially from the 20th to the 25th, inclusive, showers were again general. These rains which were excessive at many points materially relieved the drought conditions of the past summer and in portions of Vermont and New York terminated one of the driest seasons on record, as stated before. At Oswego, N. Y., on the 21st–22d, 2.12 inches of rain fell, constituting about two-thirds of the total fall for the month. Heavy rains also occurred on the same dates at Ithaca, King Ferry, and Palermo, N. Y. On the 30th heavy thunderstorms, resulting in liberal rains, were reported along the southern border of the Lake Region, and at Fort Wayne, Ind., 0.70 inch of rain fell within 10 minutes, the total rainfall of 1.22 inches covering a period of about two hours.

Snow.—Snow was reported from four stations in Minnesota, quite generally over upper Michigan and the north and central portions of Wisconsin, and from two stations in the elevated sections of New York, the amounts in all States being confined mostly to traces and occurring on the 21st, 22d, or 23d. The heaviest fall, 3 inches, was reported from Iron River, Wis., on the 21st, and at several points in northern Wisconsin the amounts ranged from 2 to 2.5 inches. At Duluth, Minn., the snow of the 21st was the earliest on record, none having been observed in past Septembers prior to the 24th.

MISCELLANEOUS.

Unusually fine auroral displays were observed at Duluth, Minn., on the 7th and 8th.

Dense fog occurred on the Detroit River at Detroit, Mich., on the 7th, 11th, and 29th, navigation being seriously hindered on all days, especially on the 11th and 29th, when several steamers grounded in the Livingston Channel.

This was the first September in 30 years in which no thunderstorms were recorded at Buffalo, N. Y.

SEPTEMBER LAKE LEVELS.

The following data are from the report of the United States Lake Survey:

	Lake Superior.	Lakes Michigan and Huron.	Lake Erie.	Lake Ontario.
	Feet.	*Feet.*	*Feet.*	*Feet.*
Above tide water at New York	602.83	580.93	572.76	246.74
Above or below:				
Stage of August, 1913	+0.09	−0.31	−0.48	−0.57
Stage of September, 1912	+0.30	+0.24	+0.26	+0.36
Mean stage of September last 10 years	+0.05	+0.05	+0.33	+0.46
Highest recorded stage	−1.25	−2.50	−1.18	−0.87
Lowest recorded stage	+1.34	+1.27	+1.48	+2.74
Probable change during October	0.00	−0.20	−0.30	−0.30

TABLE 1.—*Climatological data for September, 1913. District No. 4, Lake Region.*

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Sky.				Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Minnesota.																				
Cloquet	Carlton	800	2	53.4	.....	91	1	21	23	40	3.62	.....	1.13	0	8	15	5	10	e.	State Forest Exp. Station.
Duluth	St. Louis	1,113	42	53.9	− 2.8	80	2	28	22	26	3.32	− 0.23	1.22	T.	9	12	5	13	ne.	U. S. Weather Bureau.
Floodwood	....do	1,257	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. H. Schussler.
Grand Marais	Cook	.....	.....	54.4	.....	85	2	30	22	32	3.20	.....	0.62	T.	8	16	7	7	w.	E. L. Derry.
Stephens Mine	St. Louis	1,500	6	54.3	.....	89	1	26	23	53	2.70	.....	1.00	T.	6	20	2	8	s.	Oliver Iron Mining Co.
Two Harbors	Lake	614	19	55.9	− 0.3	84	8	25	22	36	0.96	− 3.53	0.40	0	7	11	13	6	ne.	G. W. Watts.
Virginia	St. Louis	1,434	19	55.6	+ 1.1	90	1	29	22†	41	3.19	− 1.18	1.12	T.	11	21	3	6	se.	Oliver Iron Mining Co.
Wisconsin.																				
Appleton	Outagamie	795	12	62.1	+ 0.2	101	2	32	23	32	3.40	+ 0.13	1.30	T.	9	20	3	7	se.	Wm. O. Thiede.
Ashland	Ashland	615	22	55.0	− 5.4	96	1	23	23	50	4.68	+ 0.93	1.58	T.	11	15	3	12	sw.	Agricultural Exp. Station.
Bayfield	Bayfield	635	4	57.8	− 1.8	92	1	30	23	37	5.73	+ 3.15	1.49	T.	14	15	3	12	ne.	Rev. Sabinus Mollitor.
Cecil	Shawano	804	15	61.0	− 1.7	95	2	34	21	39	5.70	+ 2.46	2.13	T.	13	16	10	4	se.	Louis W. Schmidt.
Cornucopia	Bayfield	640	1	56.3	.....	85	1	29	23	33	3.15	.....	0.85	T.	13	13	8	9	ne.	Reed Fruit Co.
Crandon	Forest	1,060	18	56.5	− 1.2	87	6	25	23	38	3.84	+ 0.40	1.66	T.	7	19	4	7	se.	Frank Shoemaker
Florence	Florence	1,293	22	55.4	− 1.0	89	1	28	23	36	4.87	+ 1.75	2.45	T.	5	17	3	10	nw.	Fred S. Evans.
Fond du Lac	Fond du Lac	800	27	60.2[b]	− 1.0	98[b]	2	25[b]	23	39[b]	3.57	+ 0.66	0.96	T.	9	18[c]	0[c]	9[c]	e.	Edward A. Seeley.
Grand River Locks	Marquette	770	17	61.0	.....	98	2	24	23	41	3.53	− 0.51	1.35	T.	10	18	4	8	e.	Jerry Parkinson.
Green Bay	Brown	617	27	59.8	+ 0.7	94	2	36	20	28	3.56	+ 0.44	1.85	0	9	7	11	12	se.	U. S. Weather Bureau.
High Falls	Marinette	1,125	1	59.1	.....	97	2	33	23	41	3.71	.....	1.60	0	9	19	3	8	se.	No. Hydro-Elec. Pow. Co
Iron River	Bayfield	1,096	4	59.2[c]	.....	95	1	.....	.....	46[c]	4.20	.....	1.40	3.0	12	18	4	8	s.	Winfield E. Tripp.
Kewaunee	Kewaunee	590	4	59.9	.....	94	7	33	23	35	2.58	.....	0.85	0	10	13	3	14	s.	Anton M. Jessen.
Manitowoc	Manitowoc	616	62	59.8	0.0	93	7	34	23	27	2.94	− 0.18	1.10	0	7	12	7	11	s.	Miss Johanna Lups.
Menasha	Winnebago	764	16	.....	.....	.....	.....	.....	.....	.....	3.17	− 0.57	1.55	T.	5	19	3	8	se.	Geo. T. Allanson.
Menomonee Falls	Waukesha	842	4	60.3[a]	.....	93[a]	2	27[a]	23	33[a]	3.38	.....	1.24	T.	10	17[a]	5[a]	7[a]	se.	Arthur H. Christman.
Milwaukee	Milwaukee	681	43	62.8	+ 1.3	96	2	37	22	25	2.05	− 0.87	0.77	0	8	11	10	9	se.	U. S. Weather Bureau.
New London	Outagamie	762	17	59.5	− 1.0	94	2	29	23	42	4.43	+ 0.89	2.60	T.	7	11	7	12	se.	August H. Pape.
Oconto	Oconto	590	22	60.0	− 0.6	93	2	36	23	35	4.95	+ 1.64	1.80	0	4	20	2	5	s.	Harry M. Lord.
Oshkosh	Winnebago	744	24	60.8	− 1.5	96	2	28	23	34	3.69	+ 0.63	1.74	0	7	20	6	4	se.	Evan Vincent.
Pine River	Waushara	900	18	60.8	− 0.2	98	2	28	23	36	3.84	+ 0.36	1.62	T.	8	9	16	5	se.	Geo. H. Carpenter.
Plum Island	Door	588	5	59.6	.....	90	7	34	21	25	4.77	.....	1.32	0	9	16	6	8	s.	Wm. Robinson.
Plymouth	Sheboygan	843	3	60.0	.....	96	2	29	23	28	2.78	.....	1.15	T.	11	15	6	9	se.	Paul O. Feldrappe.
Port Washington	Ozaukee	713	20	60.6	− 0.7	94	7	31	23	30	1.61	− 1.56	0.72	0	6	21	1	8	se.	Richard C. Kann.
Racine	Racine	633	16	64.6	+ 0.4	98	2	33	23	29	2.08	− 1.52	0.74	0	9	15	8	7	se.	Daniel Davis.
Ripon	Fond du Lac	1,031	3	61.6	.....	97	2	29	23	32	4.38	.....	1.35	0	10	18	4	8	se.	Ripon College.
Sheboygan	Sheboygan	831	14	62.0	0.0	98	2	34	23	28	3.43	− 0.22	1.36	0	8	15	7	8	se.	Louis C. Meyer.
Sturgeon Bay	Door	600	14	58.0	− 1.5	93	7	37	22†	32	4.67	.....	1.21	0	13	13	13	4	se.	Adam N. Dier.
Superior	Douglas	701	4	54.4	.....	78	7	28	23	31	3.48	.....	1.62	0	8	12	10	8	ne.	Edward B. Banks.
Waupaca	Waupaca	857	18	60.0	− 0.6	99	2	26	23	39	4.54	+ 0.85	1.67	0	9	13	9	8	sw.	James H. Flagg.
Illinois.																				
Chicago	Cook	823	43	65.4	+ 0.8	97	2	38	22	24	1.49	− 1.53	0.93	0	9	12	10	8	se.	U. S. Weather Bureau.
Indiana.																				
Auburn	Dekalb	874	17	61.4	− 1.3	98	2	28	23	48	2.32	− 0.33	0.55	0	9	16	2	12	sw.	Mrs. Josie B. Kuhlman.
Berne	Adams	849	4	64.1	.....	99	2	30	23	46	2.14	.....	0.64	0	11	13	6	11	ne.	Henry M. Reusser.
Fort Wayne	Allen	856	17	63.1	− 1.4	96	2	34	23	34	3.01	− 0.20	1.22	0	10	11	9	10	ne.	U. S. Weather Bureau.
Hammond	Lake	598	22	65.6	0.0	102	2	36	27	47	1.85	− 0.99	0.95	0	7	11	9	10	.....	Carson W. Whitney.
Howe	Lagrange	886	8	62.9	.....	93	2	31	23	50	2.33	.....	0.81	0	6	17	0	13	e.	A. A. Wade.
Notre Dame	St. Joseph	712	2	62.9	.....	97	2	34	23	33	2.17	.....	0.74	0	13	13	12	5	e.	U. S. Weather Bureau.
Whiting	Lake	606	4	64.6	.....	100	2	34	23	37	1.14	.....	0.38	0	9	16	6	8	ne.	D. H. Boyd.
Michigan—Upper Peninsula.																				
Baraga	Baraga	623	11	.....	.....	.....	.....	.....	.....	.....	3.00	+ 0.90	0.80	0	8	13	0	17	.....	Duluth, S. S. & A. Ry.
Bergland	Ontonagon	1,300	3	54.6	.....	91	7	27	23	41	5.43	.....	1.75	.....	7	18[a]	0[a]	11[a]	nw.	Frank McMonigal.
Calumet	Houghton	1,246	25	54.0	− 1.6	87	1	30	22	33	3.08	− 0.55	0.86	0.5	9	16	6	8	e.	E. S. Grierson.
Chatham	Alger	875	12	52.8	− 2.1	87	5	24	12	45	3.70	− 0.21	1.00	T.	8	13	6	11	w.	Upper Peninsula Exp. Sta.
Deer Park	Luce	610	12	55.9	− 0.7	90	2	32	14	32	2.08	− 0.77	0.50	0	8	17	1	12	se.	Mrs. Sarah E. McGaw.
Eagle Harbor	Keweenaw	622	14	55.6	− 0.8	87	1	34	22	28	3.60	+ 0.24	1.80	0	8	21	0	9	se.	T. J. Bennets.
Escanaba	Delta	612	40	56.0	− 0.9	85	7	30	23	25	3.54	− 0.04	1.72	0	8	10	12	8	s.	U. S. Weather Bureau.
Ewen	Ontonagon	1,147	12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. B. Hatfield.
Grand Marais	Alger	610	12	56.2	− 1.3	85	2	35	14	32	3.53	+ 1.09	0.90	0	12	17	4	9	s.	Mrs. Lena Truedell.
Houghton	Houghton	668	12	55.6	− 0.9	94	1	33	22	36	4.01	+ 0.47	1.37	2.5	12	9	10	11	e.	U. S. Weather Bureau.
Humboldt	Marquette	1,536	16	55.1[a]	+ 1.8	90	1	24[b]	14	45[b]	4.08	+ 0.69	2.00	2.0	5	21	0	9	w.	Duluth, S. S. & A. Ry.
Iron Mountain	Dickinson	1,111	12	57.0[a]	+ 0.7	90[a]	1	28[a]	23	38[a]	4.46	+ 1.63	1.52	T.	9	14	8	8	sw.	Chapin Mining Co.
Iron River	Iron	1,504	16	54.7	+ 0.2	92	1	30	13†	44	6.09	+ 2.30	1.35	T.	10	20	4	6	nw.	Victor D. Laing.
Ironwood	Gogebic	1,520	10	56.3	+ 2.4	92	1	27	23	34	5.91	+ 2.36	1.93	2.0	10	16	6	8	n.	J. V. Brennan.
Ishpeming	Marquette	1,536	13	54.8	− 0.5	89	1	29	23	36	4.53	+ 0.95	1.62	2.0	12	11	11	8	s.	Cleveland Cliffs Iron Co.
Isle Royale	Keweenaw	610	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. A. Malone.
Mackinac Island	Mackinac	831	12	57.6	− 0.6	85	2	37	14	26	1.62	− 3.57	0.57	0	7	3	12	15	e.	Mackinac I. State Park Com.
Maple Ridge	Delta	.....	7	54.7	.....	87	1†	28	23	39	3.35	.....	1.30	0	7	19	4	7	n.	Herman Johnson.
Marquette	Marquette	734	42	56.2	− 0.6	92	1	34	23	32	3.76	+ 0.25	1.38	0.1	13	9	9	12	nw.	U. S. Weather Bureau.
Menominee	Menominee	581	14	59.6	0.0	92	7	36	22†	27	4.84	+ 1.33	1.53	0	6	20	3	7	sw.	Chief of Fire Dept.
Munising	Alger	631	16	55.8	+ 0.4	88	2	29	14	35	3.77	+ 0.17	1.07	0	12	14	6	10	s.	Albert Oas.
Newberry	Luce	773	11	55.6	+ 2.8	87	2†	29	14	30	2.03	− 0.41	0.45	0	11	14	6	10	s.	John Brown.
Ontonagon	Ontonagon	1,147	12	58.4[b]	.....	92[b]	7	32[b]	24	32[b]	5.20	.....	1.30	0	9	8	8	14	ne.	T. A. Green.
Powers	Menominee	868	13	58.4	+ 1.2	93	6	31	22†	44	.....	.....	.....	.....	.....	6	19	5	n.	Chicago & N. Ry.
St. Ignace	Mackinac	593	23	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Duluth, S. S. & A. Ry.
Sault Ste. Marie	Chippewa	614	25	55.2	+ 0.9	82	2	32	14	26	2.36	− 1.10	1.23	0	11	12	5	13	se.	U. S. Weather Bureau.
Seney	Schoolcraft	730	1	57.2	.....	95	2	27	13	44	1.67	.....	0.37	0	10	16	4	10	sw.	Western Land Securities Co.
Thomaston	Gogebic	1,347	16	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Duluth, S. S. & A. Ry.
Victoria	Ontonagon	1,263	3	58.1	.....	93	1	30	21†	39	5.92	.....	1.95	T.	9	16[c]	4[c]	7[c]	nw.	R. S. Schultz, jr.
Watersmeet	Gogebic	.....	4	55.0	.....	92	1	26	18†	44	4.71	.....	1.74	0	11	12	7	11	s.	B. N. Grant.
Whitefish Point	Chippewa	610	13	55.2	− 0.7	79	2	34	27	31	1.46	− 2.12	0.30	0	11	15	3	12	se.	Robert Carlson.
Michigan—Lower Peninsula.																				
Adrian	Lenawee	770	35	64.0	− 1.1	104	2	30	23	47	1.94	− 1.44	0.85	0	5	11	12	7	e.	H. E. Hubbard.
Allegan	Allegan	698	22	64.4	+ 1.8	99	2	35	27	45	2.59	− 0.53	0.71	0	8	7	12	11	w.	Pere Marquette R. R.
Alma	Gratiot	750	26	60.0	− 0.8	94	2	32	14	39	2.30	− 1.06	1.00	0	8	17	5	8	nw.	P. M. Smith.
Alpena	Alpena	609	40	56.8	− 0.5	92	2	36	14	28	1.77	− 1.71	0.62	0	6	11	14	5	se.	U. S. Weather Bureau.
Ann Arbor	Washtenaw	930	33	62.7	− 0.1	99	2	34	23	39	1.38	− 1.30	0.62	0	5	15	7	8	e.	University of Michigan.

TABLE 1.—*Climatological data for September, 1913. District No. 4*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Sky.				Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Michigan—Lower Peninsula—Contd.																				
Arbela	Tuscola	728	17	58.8	− 3.9	97	2	29	14	37	2.96	+ 0.18	0.72	0	8	11	12	7	sw.	Wm. Atkin.
Armada	Macomb		24	59.3	− 2.5	92	2	31	14	36	1.22	+ 1.55	0.54	0	6	9	15	6	ne.	R. O. Gould.
Battle Creek	Calhoun	822	29	62.2	− 1.6	99	2	35	23	39	1.36	− 1.46	0.53	0	7	14	8	8	se.	Elmer E. Sager.
Bay City	Bay	593	17	62.5	+ 0.6	96	2	37	15	42	1.11	− 2.36	0.48	0	4	17	7	6	ne.	Pere Marquette R. R
Benzonia	Benzie	832	16	59.7	+ 1.5	93	2	36	14	35	3.30	+ 0.01	0.81	0	10	13	11	6	sw.	Wallace Nutting.
Big Rapids	Mecosta	906	17	60.2	+ 0.6	97	2	32	14	40	1.67	− 1.58	0.73	0	7	2	27	1	se.	Supt. Waterworks.
Bloomingdale	Vanburen		9	64.1	.....	99	2	36	23	37	1.86	.....	0.63	0	6	18	6	6	sw.	John M. Haven.
Cadillac	Wexford	1,293	4	59.2	.....	92	2	36	14	30	1.65	.....	0.72	0	6	19	5	6	se.	Cadillac W. & L. Co.
Cassopolis	Cass	903	12	64.8[f]	− 0.2	98[f]	3	31[f]	23	46[f]	.....	.....	.....	0	.....	16[f]	1[f]	7[f]	.....	Michigan Central R. R.
Charlevoix	Charlevoix	610	35	.....	.....	88	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Pere Marquette R. R.
Charlotte	Eaton		9	62.2	.....	97	2	33	14	42	0.68	.....	0.51	0	3	18	2	10	sw.	City of Charlotte.
Cheboygan	Cheboygan	611	23	59.1[f]	− 0.8	90[f]	1†	29[f]	14	41[f]	.....	.....	.....	0	.....	16[f]	3[f]	5[f]	w.	E. A. Bouchard.
Clinton	Lenawee	830	23	64.0	+ 0.3	102	2	31	23	42	0.90	− 1.70	0.32	0	4	14	9	7	sw.	David Woodward.
Coldwater	Branch	984	16	64.4	+ 0.1	99	2	34	23	35	0.77	− 2.18	0.25	0	7	16	6	8	s.	L. S. & M. S. R. R.
Croton	Newaygo	685	5	61.5	.....	93	1†	34	14	37	2.38	.....	1.01	0	9	10	15	5	sw.	Gr. Rap. Musk. Power Co.
Detroit	Wayne	730	42	62.3	− 0.8	95	2	37	23	27	1.18	− 1.30	0.65	0	8	10	10	10	e.	U. S. Weather Bureau.
Durand	Shiawassee	799	5	65.2	.....	99	2	35	14†	46	1.58	.....	0.58	0	6	12	8	10	n.	Chief Train Dispatcher.
East Tawas	Iosco	590	16	58.5	− 1.9	80	2†	30	14	33	1.52	− 0.62	0.55	0	6	20[a]	7[a]	2[a]	e.	Detroit & Mackinaw Ry.
Eloise	Wayne	640	16	62.2	− 2.0	99	2	34	14†	41	0.71	− 1.99	0.50	0	7	11	8	11	se.	John Gilmore.
Five Channels	Iosco		0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Au Sable Electric Co.
Flint	Genesee	730	24	59.8	− 1.7	95	2	33	14	40	1.43	− 1.14	0.79	0	8	13	6	11	s.	William L. Fisher.
Frankfort	Benzie	589	9	59.4	.....	78	2†	37	14	27	1.81	.....	0.73	0	6	18	0	12	s.	Geo. Morency.
Ganges	Allegan	665	4	63.6	.....	97	1	39	22	36	2.80	.....	1.08	0	8	19	4	7	se.	H. H. Hutchins.
Gaylord	Otsego	1,367	13	58.6	+ 2.0	94	2	32	14	36	2.64	− 0.56	1.35	0	6	19	1	10	se.	Michigan Central R. R.
Gladwin	Gladwin	794	17	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Geo. R. Smith.
Grand Haven	Ottawa	628	42	60.8	− 0.3	90	1	40	22	32	3.03	− 0.14	1.31	0	11	14	9	7	e.	U. S. Weather Bureau.
Grand Rapids	Kent	707	23	63.3	+ 1.5	98	2	40	27	32	2.25	− 0.87	1.04	0	9	11	10	9	se.	Do.
Grape	Monroe	625	23	63.2[d]	− 1.1	99[d]	2	32[d]	23	41[d]	1.07	− 2.16	0.45	0	8	12[d]	12[d]	2[d]	.....	Joseph W. Morris.
Grass Lake	Jackson	989	7	62.5	.....	100	2	34	23	38	0.78	.....	0.40	0	3	21	3	6	sw.	Menzo Conklin.
Grayling	Crawford	1,147	23	.....	.....	.....	.....	.....	.....	.....	2.82	−0.17	0.65	0	6	21	0	9	w.	S. N. Insley.
Greenville	Montcalm	802	1	61.4	.....	96	2	36	27	39	2.11	.....	0.75	0	5	11[b]	6[b]	11[b]	se.	Michigan Pickle Co.
Harbor Beach	Huron	635	25	62.4	+ 1.2	98	2	37	14	36	1.20	− 1.03	0.65	0	4	13	11	6	s.	Pere Marquette R. R.
Harrison	Clare	1,159	20	59.6	0	94	2	34	14†	41	1.87	− 0.88	1.00	0	4	19	3	8	se.	Do.
Harrisville	Alcona		29	57.0[e]	− 2.4	.....	.....	34[e]	25	43[e]	1.22	− 1.66	1.01	0	5	16[e]	5[e]	6[e]	sw.	Mrs. D. W. Mitchell.
Hart	Oceana	698	21	62.8	+ 2.7	92	1	38	13	48	2.79	− 0.51	0.82	0	5	13	8	9	sw.	Pere Marquette R. R.
Hayes	Huron	620	23	62.3[b]	+ 0.7	96[b]	2†	33[b]	14	40[b]	1.41	− 1.23	.....	0	7	9[b]	14[b]	5[b]	sw.	C. F. Leipprandt.
Highland	Oakland	1,006	21	.....	.....	.....	.....	.....	.....	.....	1.57	− 0.93	0.77	0	5	.....	.....	.....	.....	A. D. De Garmo.
Hillsdale	Hillsdale	1,150	16	62.6	− 0.5	98	2	32	23	39	1.53	− 1.13	0.87	0	5	12	7	11	sw.	C. L. Herron.
Holland	Ottawa	610	7	63.0	.....	96	3	36	13†	46	2.25	.....	0.81	0	8	15	9	6	nw.	City of Holland.
Houghton Lake	Roscommon		0	58.0	.....	93	2	32	13†	33	2.59	.....	0.92	0	6	19	2	9	e.	James H. Ostander.
Howell	Livingston	924	21	63.0	+ 0.2	96	2	32	23	46	1.12	− 0.92	0.30	0	7	18	3	9	sw.	Frank Sharp.
Ivan	Kalkaska		24	59.5	+ 0.2	97	2	33	14	37	3.89	+ 0.70	1.56	0	10	12	15	3	se.	O. L. Giddings.
Jackson	Jackson	927	16	63.6	− 1.1	101	2	33	23	44	1.22	− 1.55	0.50	0	7	17	4	9	se.	City of Jackson.
Jeddo	St. Clair	667	24	60.8	− 1.3	93	2	34	14	38	1.09	− 1.68	0.52	0	7	15	9	6	sw.	William Bice.
Johannesburg	Otsego		0	57.6	.....	94	2	29	14	37	3.15	.....	0.96	0	8	12	10	8	sw.	Axel Becker.
Kalamazoo	Kalamazoo	955	37	63.0	− 0.1	96	2	36	23	35	1.30	− 1.78	0.55	0	3	15	8	7	w.	Kalamazoo Asylum.
Lansing (Agricultural College).	Ingham	863	49	61.0	− 0.6	97	2	35	23	35	1.53	− 1.09	0.54	0	9	11	9	10	se.	U. S. Weather Bureau.
Lansing (Capitol)	do	881	26	62.2	+ 0.3	98	2	37	23	36	1.25	− 1.67	0.34	0	9	11	7	12	sw.	State Board of Health.
Lapeer	Lapeer	827	14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Michigan Home.
Ludington	Mason	637	15	59.2	− 2.4	86	1	37	14	32	2.28	+ 0.06	1.29	0	11	14	6	10	se.	U. S. Weather Bureau.
Luther	Lake	1,028	3	59.4	.....	96	2	28	13	43	2.42	.....	1.08	0	10	18	5	7	s.	John W. Nichoson.
Mackinaw	Cheboygan	592	22	52.2	− 5.9	73	2	30	27	27	1.23	− 2.27	0.55	0	4	18	11	1	e.	Grd. Rap. & Ind. Ry.
Mancelona	Antrim	1,121	17	57.8[b]	− 0.3	94[b]	2	28[b]	27	40[b]	3.55	+ 0.34	1.21	0	8	18[b]	0[b]	10[b]	w.	Do.
Manistee	Manistee	600	16	61.0[d]	+ 0.9	95[d]	1	39[d]	15	33[d]	3.86	+ 1.45	1.60	0	10	16[d]	0[d]	10[d]	s.	Postmaster.
Marshall	Calhoun	896	1	67.4[d]	.....	96[d]	2	45[d]	23	38[d]	.....	.....	.....	.....	.....	17[d]	0[d]	9[d]	.....	E. B. Stuart.
Midland	Midland	604	14	62.0	+ 0.6	95	2	35	15	44	2.50	+ 0.33	0.90	0	5	16	9	5	s.	Pere Marquette R. R.
Morenci	Lenawee	811	6	63.4	.....	102	2	30	23	43	3.70	.....	1.25	0	6	14	6	10	nw.	George J. Tripp.
Mount Clemens	Macomb	615	13	61.9	− 0.6	95	2	34	14†	38	.....	.....	.....	0	.....	17	0	13	w.	Waterworks.
Mount Pleasant	Isabella	826	14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	.....	19	6	5	w.	Pere Marquette R. R.
Muskegon	Muskegon	587	17	60.8	− 1.2	94	2	35	27	37	.....	.....	.....	0	.....	22	1	7	.....	Grd. Rap. & Ind. Ry.
Old Mission	Grand Traverse	858	19	60.2[e]	− 0.8	95[e]	2	37[e]	15	....	5.51	+ 2.31	1.65	0	11	14	9	7	n.	E. O. Ladd.
Olivet	Eaton	934	23	63.0	+ 1.5	100	2	35	23	40	1.50	− 1.94	0.49	0	9	19	3	8	s.	G. A. Knapp.
Omer	Arenac	616	14	61.6[a]	+ 1.8	94[a]	3	27[a]	21	51[a]	.....	.....	.....	0	.....	19[a]	3[a]	7[a]	.....	Detroit & Mackinaw Ry.
Onaway	Presque Isle	826	10	60.1	+ 1.9	94	2	34	10	51	.....	.....	.....	.....	.....	22	0	8	ne.	Do.
Owosso	Shiawassee	731	16	63.6	+ 0.4	98	2	32	14	43	2.31	− 0.25	0.80	0	8	5	23	2	n.	Owosso Sugar Co.
Petoskey	Emmet	660	23	54.6	− 5.1	74	1	36	15†	24	1.05	− 1.74	0.50	0	3	25	3	2	e.	Grd. Rap. & Ind. Ry.
Plymouth	Wayne	725	16	65.2	+ 3.2	102	2	33	15	44	0.95	− 1.50	0.50	0	2	16	8	6	s.	Pere Marquette R .R.
Pontiac	Oakland	935	13	62.1	− 0.7	96	2	36	23	32	1.20	− 1.22	0.71	0	3	8	15	7	sw.	Fred W. Shaw.
Port Austin	Huron	618	16	60.8	− 0.2	97	2	31	14	43	0.72	− 1.44	0.35	0	6	19	3	8	s.	Pere Marquette R. R.
Port Huron	St. Clair	639	38	60.4	− 0.5	91	2	36	23	34	0.69	− 1.99	0.48	0	6	12	9	9	sw.	U. S. Weather Bureau.
Reed City	Osceola	1,033	16	59.2	− 0.7	94	2	31	14	37	2.87	− 0.10	1.40	0	7	17	1	12	se.	Osceola Lt. & Pow. Co.
Roscommon	Roscommon	1,141	12	57.8[a]	+ 0.4	93[a]	2†	29[a]	15	48[a]	2.89	+ 0.28	1.53	0	6	14[a]	10[a]	5[a]	sw.	Marcus Schaaf.
Saginaw, East Side	Saginaw	601	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Postmaster.
Saginaw, West Side	do	641	18	60.5	− 0.8	95	2	38	14	33	1.73	− 1.37	0.49	0	8	12	8	10	s.	U. S. Weather Bureau.
St. James	Charlevoix	681	7	58.2	.....	86	2	40	22†	24	2.13	.....	0.52	0	10	17	4	9	sw	James Malone.
St Joseph	Berrien	593	26	63.8	0	96	1	42	22†	34	2.52	− 0.55	0.75	0	6	12	6	12	sw.	City of St. Joseph.
Sandusky	Sanilac	790	4	59.6	.....	94	2	29	13	40	1.14	.....	0.64	0	6	14	10	6	s.	Pere Marquette R. R.
Saranac	Ionia	639	18	62.1	+ 0.4	101	6	32	27	51	1.58	− 1.43	0.65	0	5	14	2	14	sw.	John Wallington.
South Haven	Van Buren	585	17	.....	.....	.....	.....	.....	.....	.....	2.32	− 0.81	0.83	0	7	22	1	7	n.	Capt. James S. Donahue.
Thornville	Lapeer	975	36	61.9	− 1.0	91	2	31	23	36	0.89	− 2.10	0.22	0	7	10	16	4	nw.	J. S. Caulkins.
Traverse City	Grand Traverse	588	16	61.2	+ 0.1	95	2	34	14	33	2.14	− 0.51	0.70	0	5	16	3	11	n.	Grd. Rap. & Ind. Ry.
Vassar	Tuscola	641	12	61.2	− 1.3	96	2	32	14	42	2.20	− 0.19	0.68	0	5	9	17	4	sw.	Pere Marquette R. R.
Wasepi	St. Joseph	842	16	62.8	− 0.2	97	2	35	23	34	2.35	− 0.36	0.80	0	11	18	0	12	sw.	Charles A. Palmer.
Weber Dam	Ionia		0	63.1	.....	94	2	37	14	41	1.56	.....	0.78	0	7	15	8	7	ne.	Au Sable Electric Co.
West Branch	Ogemaw	973	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Michigan Central R. R.
Ypsilanti	Washtenaw	736	28	62.2	+ 0.3	99	2	32	23	42	1.59	− 1.40	0.50	0	6	5	24	1	sw.	Orin J. Bemiss.
Ohio.																				
Akron	Summit	1,081	26	63.7[a]	− 0.7	93[a]	2†	35	23	35	3.10	− 0.05	0.88	0	8	16	3	11	s.	Prof. C. R. Olin.
Antwerp	Paulding	733	1	65.0	.....	99	2	30	23	45	2.46	.....	0.86	0	5	18	0	12	sw.	North G. Osborn.
Benton Ridge	Hancock	800	20	64.2	− 1.6	94	2†	31	23	42	3.05	+ 0.62	1.03	0	9	14	9	7	sw.	J. W. Powell.
Bowling Green	Wood	670	32	63.5	− 1.5	98	2	30	23	39	1.48	− 1.43	0.37	0	5	14	8	8	sw.	G. C. Houskeeper.
Bucyrus	Crawford	1,000	19	62.4	− 3.0	97	2	28	23	43	2.27	− 0.59	0.55	0	11	15	4	11	s.	James R. Hopley.
Cleveland (1)	Cuyahoga	762	42	62.6	− 1.7	92	2	39	23	28	2.10	− 1.12	1.19	0	9	10	11	9	se.	U. S. Weather Bureau.
Cleveland (2)	do	754	16	62.9	− 1.8	93	2	37	23	32	2.59	− 0.59	1.07	0	10	15	3	12	se.	Rev. F. L. Odenbach, S. J.
Conneaut	Ashtabula	675	3	63.1	.....	96	3	35	14	41	0.94	.....	0.34	0	7	12	3	15	nw.	E. L. Ransom.

TABLE 1.—*Climatological data for September, 1913. District No. 4*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Ohio—Continued.																			
Findlay	Hancock	776	24	63.7	— 2.2	100	2	29	23	47	1.90	— 0.94	0.72	0	12	17	4	9	sw.	Dr. E. A. Moser.
Fremont	Sandusky	628	11	64.4	— 1.5	99	2	32	23	41	1.61	— 1.29	0.45	0	7	16	7	7	.....	E. Stanley Thomas.
Hedges	Paulding	725	19	65.0	— 0.5	100	3	29	23	45	2.72	+ 0.09	0.70	0	9	16	6	8	n.	Charles Stutzman.
Hillhouse	Lake	997	20	62.2	— 1.2	94	2	35	23	38	2.62	— 1.26	0.84	0	9	13	10	7	nw.	J. W. Doncaster.
Hiram	Portage	1,260	33	63.0	— 0.3	92	2	35	23	33	1.76	— 1.53	0.55	0	9	12	11	7	sw.	Prof. G. H. Colton.
Hudson	Summit	1,123	52	64.2	+ 0.2	98	2	34	23	36	3.08	— 0.27	0.81	0	11	16	7	7	sw.	Dr. W. I. Chamberlain.
Lima	Allen	875	14	62.8	— 2.4	95	2†	31	23	39	1.42	— 1.31	0.38	0	8	15	3	12	e.	Miss Ollie De Long.
Medina	Medina	944	25	63.8	— 1.4	99	2	28	23	45	1.20	— 1.51	0.59	0	7	16	4	10	n.	F. W. Clark.
Montpelier	Williams	880	21	64.6	+ 0.8	100	2	33	23	43	2.92	— 0.06	0.95	0	5	13	6	11	w.	G. L. Laser.
Napoleon	Henry	680	26	62.4	— 2.8	100	2	32	22†	40	3.87	+ 1.21	1.25	0	10	17	0	13	e.	A. C. Senter.
New Bremen	Auglaize	1,038	20	64.7	— 2.0	97	2	31	23	38	1.48	— 1.18	0.34	0	8	10	8	12	ne.	Miss Lillian Grothaus.
North Royalton	Cuyahoga	1,000	20	63.5	— 1.6	95	2	32	23	35	1.96	— 1.32	0.63	0	7	15	8	7	ne.	W. S. Edgerton.
Norwalk	Huron	719	27	63.7	— 1.4	100	2†	31	23	47	1.62	— 1.12	0.44	0	11	9	8	13	sw.	Giles R. Gregory.
Oberlin	Lorain	855	38	63.6	— 0.7	98	2†	30	23	43	3.16	+ 0.48	0.88	0	10	14	5	11	s.	Prof. F. F. Jewett.
Ottawa	Putnam	720	20	63.7	— 2.2	95	3	30	23	37	2.47	— 0.27	0.60	0	9	8	13	9	sw.	Prof. J. T. Maidlow.
Sandusky	Erie	629	36	63.5	— 1.8	94	2	36	23	29	2.18	— 0.50	0.66	0	10	9	6	15	s.	U. S. Weather Bureau.
Tiffin	Seneca	775	31	63.6	— 1.3	97	3	33	23	33	1.45	— 1.23	0.56	0	7	18	8	4	s.	Prof. T. H. Sonnedecker.
Toledo	Lucas	769	42	63.1	— 1.0	97	2	36	23	28	2.51	+ 0.15	0.67	0	8	12	10	8	sw.	U. S. Weather Bureau.
Upper Sandusky	Wyandot	854	30	63.2	— 2.6	97	2†	30	23	38	1.88	— 0.63	0.50	0	8	11	11	8	w.	Robert E. Tracht.
Vickery	Sandusky	588	20	62.1	— 3.4	98	2†	31	23	46	2.28	— 0.34	0.70	0	8	12	10	8	s.	John W. Barr.
Wapakoneta	Auglaize	808	1	64.0	.....	94	2†	30	23	34	1.61	.....	0.68	T.	11	14	8	8	nw.	Dr. William Kayser.
Wauseon	Fulton	780	41	62.9	— 0.7	99	2	30	23	47	2.23	— 0.35	0.61	0	11	13	6	11	e.	Thomas Mikesell.
Wickliffe	Lake	740	1	.....	.....	.....	.....	.....	.....	.....	2.95	.....	1.05	0	7	.....	.....	.....	.....	C. M. Richardson.
Pennsylvania.																				
Erie	Erie	658	40	62.6	— 1.3	91	3	39	14	31	1.69	— 1.80	1.35	0	6	8	12	10	s.	U. S. Weather Bureau.
New York.																				
Adams Center	Jefferson	540	22	60.8	— 0.3	90	2	28	15	38	2.24	— 1.23	1.28	0	6	18	9	3	sw.	A. E. Cooley.
Angelica	Allegany	1,340	30	56.6	— 2.1	88	3	23	14†	45	1.16	— 1.81	0.46	0	6	1	17	12	w.	C. P. Arnold.
Appleton	Niagara	270	22	59.3	— 2.6	87	2	34	14	37	0.89	— 2.18	0.36	0	5	17	9	4	ne.	H. A. Van Wagoner.
Auburn	Cayuga	715	44	61.4	+ 0.4	88	3	36	15	26	2.49	— 0.56	1.63	0	6	10	14	6	se.	J. W. Ackerman.
Avon	Livingston	585	18	59.8	— 2.1	90	2	26	15	40	1.25	— 1.41	0.71	0	4	19	2	9	.....	W. G. Markham.
Brockport	Monroe	537	17	59.6	— 3.6	92	2	32	14†	43	1.27	— 1.33	0.60	0	6	15	8	7	sw.	C. O. Beaman.
Buffalo	Erie	767	62	60.8	— 2.1	87	2	39	15	32	1.35	— 1.83	0.59	0	7	10	10	10	sw.	U. S. Weather Bureau.
Canisius College	do	.....	0	60.4	.....	89	2	34	14	35	1.37	.....	0.52	0	6	11	11	8	sw.	Do.
Canton	St. Lawrence	448	19	56.4	— 2.9	88	2	28	15	40	2.26	— 0.55	0.84	0	10	9	11	10	sw.	Do.
Cape Vincent	Jefferson	246	8	59.1	.....	86	2†	36	15	39	2.29	.....	1.42	0	5	17	5	8	n.	J. H. Grapotte.
Chazy	Clinton	151	13	.....	.....	93	2	.....	.....	.....	2.31	— 0.66	1.70	0	4	.....	.....	.....	n.	W. R. North.
Chestnut Lawn	Wyoming	1,090	1	60.1	.....	94	2	27	15	45	1.05	.....	0.51	0	8	13	13	4	w.	Charles Peterson.
Dannemora	Clinton	1,490	8	58.6	.....	93	2	32	14†	36	2.83	.....	2.05	0	7	23	6	1	w.	D. L. Van Derzee.
Elba	Genesee	500	14	57.6	— 5.1	87	2	29	15	36	0.91	— 1.65	0.42	0	3	17	4	9	sw.	Joseph S. Wilford.
Fayetteville	Onondaga	530	12	61.4	— 2.1	97	2	30	15	40	2.50	+ 0.05	0.92	0	10	17	7	6	se.	Dana H. Wells.
Gabriels	Franklin	1,729	11	53.2	.....	88	2	22	15	49	2.18	.....	0.90	0	8	17	3	10	sw.	Gabriels Sanitarium.
Geneva	Ontario	550	0	61.4	.....	95	3	28	15	41	2.64	.....	1.33	0	7	.....	.....	.....	.....	Agricultural Exp. Sta.
Harkness	Clinton	622	11	58.0	— 1.3	92	2	32	10†	36	2.92	+ 0.19	2.24	0	6	27	3	0	s.	J. W. Harkness.
Hemlock Lake	Livingston	900	15	60.5	— 2.3	88	3	30	15	35	1.19	— 1.02	0.83	0	5	14	6	10	s.	B. P. McGrady.
Hunt	do	1,321	14	60.3	— 2.3	96	2	27	15	46	1.17	— 1.29	0.70	0	3	18	5	7	sw.	W. S. Barager.
Ithaca	Tompkins	928	35	61.1	+ 0.5	93	3	29	15	39	3.28	+ 0.45	2.77	0	9	13	8	9	se.	U. S. Weather Bureau.
Keene Valley	Essex	1,000	15	58.4	— 0.3	100	3	23	15	59	2.76	— 0.70	1.92	0	9	19	8	3	nw.	E. R. Wells.
King Ferry	Cayuga	.....	13	.....	.....	.....	.....	.....	.....	.....	3.37	+ 0.93	2.75	0	4	13	10	7	nw.	L. A. Goodyear.
Lake George	Warren	350	16	60.3	— 0.3	94	3	30	15	38	2.31	— 1.32	1.80	0	4	12	9	9	n.	Charles Forsell.
Lake Placid Club	Essex	1,864	5	49.0	.....	82	2	20	15	44	2.69	.....	1.24	0	11	16	9	5	nw.	H. Van Hoevenberg.
Lauterbrunnen	Wyoming	1,260	1	60.4	.....	97	3	27	15	46	1.10	.....	0.50	0	7	12	12	6	sw.	J. O. Howard.
Lockport	Niagara	520	26	59.7	— 2.7	88	2	37	14	33	1.61	— 1.20	0.87	0	5	16	11	3	sw.	R. N. Clark.
Lowville	Lewis	900	46	58.2	+ 0.4	87	2	27	15†	43	2.56	— 0.51	1.82	0	8	13	10	7	w.	Prof. W. F. H. Breeze.
Moira	Franklin	200	13	56.0	— 5.0	90	2	28	10†	52	2.52	— 0.86	1.01	0	7	15	12	3	w.	C. E. McBride.
Nehasane	Hamilton	1,750	5	54.4	.....	88	2	23	15	47	2.84	.....	1.52	T.	10	15	12	3	nw.	L. W. Brown.
North Lake	Herkimer	1,822	12	55.8	.....	89	2	27	15	41	2.42	.....	0.70	0	8	22	3	5	w.	State Hospital.
Ogdensburg	St. Lawrence	175	29	59.5	— 2.1	85	2†	35	16	37	2.41	— 0.34	0.95	0	8	15	12	3	w.	J F. Redmond.
Old Forge	Herkimer	1,733	5	54.8	.....	87	2	24	28	44	2.47	.....	1.13	0	9	17	7	6	w.	Mrs. S. W. Nelson.
Oswego	Oswego	335	43	59.6	— 3.1	87	3	35	15	30	3.19	+ 0.38	2.13	0	9	12	8	10	ne.	U. S. Weather Bureau.
Otto	Cattaraugus	1,410	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. J. Winke.
Palermo	Oswego	460	54	.....	.....	.....	.....	.....	.....	.....	3.28	+ 0.21	2.63	T.	7	20	2	8	se.	Wm. A. Bartlett.
Perry City	Schuyler	1,038	33	56.6	— 3.1	91	3	20	15	45	3.60	+ 0.96	2.43	0	5	10	11	9	n.	W. H. Jeffers.
Philadelphia	Jefferson	485	7	59.2	.....	89	3	28	15	39	2.72	.....	1.00	0	11	12	12	6	n.	E. D. Babcock.
Potsdam	St. Lawrence	300	37	57.6	— 0.2	86	3	30	15	34	2.54	— 0.54	0.97	0	8	.....	.....	.....	.....	A. E. Sutherland.
Ranger School	do	1,750	0	.....	.....	87	2	25	15	.....	2.82	.....	1.52	0	10	15	9	6	nw.	Prof. R. P. Pritchard.
Raquette Lake	Hamilton	1,776	5	55.1	.....	87	2	28	15	40	2.49	.....	1.38	0	7	16	2	12	w.	R. J. Dunning.
Rochester	Monroe	523	84	60.4	— 1.5	92	2	37	14	31	1.60	— 0.72	0.87	0	8	12	9	9	sw.	U. S. Weather Bureau.
Romulus	Seneca	719	21	.....	.....	93	13	32	15	.....	2.92	+ 0.36	2.43	0	3	.....	.....	.....	s.	John H. Coryell.
Shortsville	Ontario	740	14	60.6	— 2.8	91	3	34	15	30	1.79	— 0.37	1.03	0	3	15	8	7	nw.	C. H. Latting.
Skaneateles	Onondaga	.....	18	.....	.....	.....	.....	.....	.....	.....	2.93	— 0.15	2.27	0	6	.....	.....	.....	.....	John Durkan.
Syracuse	do	597	11	60.8	— 0.8	90	3	33	15	29	1.87	— 0.95	1.42	0	9	12	8	10	s.	U. S. Weather Bureau.
Tupper Lake	Franklin	1,522	13	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. A. M. Maddox.
Volusia	Chautauqua	1,167	14	59.4	— 2.5	87	2†	34	14	34	1.20	— 2.71	0.36	0	6	12	12	6	s.	Benjamin Breads.
Wanakena	St. Lawrence	1,600	3	56.0	.....	90	2	24	28	45	2.90	.....	1.37	0	10	14	10	6	nw.	Prof. R. P. Prichard.
Watertown	Jefferson	540	21	60.0**	— 1.5	88	2	31	15	34	2.28	— 1.58	1.48	0	9	17	8	5	nw.	H. P. Dunlap.
Wedgwood	Schuyler	1,430	24	60.6	— 1.3	94	3	30	15	40	3.01	+ 0.26	2.15	0	5	19	5	6	nw.	O. F. Corwin.
Westfield	Chautauqua	837	17	61.5	— 1.7	92	3	33	14	37	1.75	— 1.45	0.61	0	7	4	19	7	.....	John R. Rogers.
York	Livingston	760	1	61.4	.....	94	2	28	15	47	1.35	.....	0.77	0	5	11	9	10	s.	M. N. Stewart.
Vermont.																				
Burlington	Chittenden	404	5	56.7	— 2.2	90	2	30	15	40	2.66	— 0.69	2.03	0	6	10	12	8	s.	U. S. Weather Bureau.
Cornwall	Addison	517	19	60.6	— 0.3	94	2	32	15	41	2.25	— 0.67	2.05	0	4	15	5	10	s.	C. H. Lane.
Enosburg Falls	Franklin	601	21	56.1	— 1.9	88	2	25	15	50	4.11	+ 1.12	2.42	0	10	18	8	4	n.	L. H. Pomeroy.
Hyde Park	Lamoille	576	1	55.5[a]	.....	92[a]	2	23[a]	15	52[a]	2.15	.....	1.28	0	7	16[a]	4[a]	9[a]	w.	A. V. Wiswell.
Northfield	Washington	876	26	54.3	— 0.3	92	3	22	15	48	1.84	— 0.92	1.13	0	9	13	7	10	s.	U. S. Weather Bureau.
Wells	Rutland	750	20	57.2	— 1.6	84	3	29	15	32	2.62	— 1.00	1.55	0	8	14	6	10	s.	E. R. Pember.

[a], [b], [c], etc., indicate respectively 1, 2, 3, etc., days missing from the record.
** Temperature extremes are from observed readings of the dry bulb; means are computed from observed readings.
† Also on other dates.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 2.—*Daily precipitation for September, 1913. District No. 4, Lake Region.*

Stations.	Watershed.	Day of month.																											Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Minnesota																																
Cloquet	Lake Superior		.27	1.13			.13				1.04	.03								.35				T.	.36	.31	T.					3.62
Duluth	do		.08	.23	.99			.06			1.04									.13	T.	T.		.03	.41	.35						3.32
Floodwood	do																															
Grand Marais	do	.44			.44		.14				.37									.62		.52			.40	.27						3.20
Stephens Mine	do				1.00			.20			.60									.20	T.			T.	.20	.50						2.70
Two Harbors	do		.05		.40			.05			.20										.05			T.	.10	.11						0.96
Virginia	do		.04		1.12		.20		.12		.60	.05				T.				.14	.13	T.		.05	.30	.44	T.					3.19
Wisconsin																																
Appleton	Fox			.03								.01					1.30	.22			.90	.09			.01	.50					.34	3.40
Ashland	Lake Superior		.19	.09	.47		.06				.47	.65								*	1.58	.59	T.	.05	.44	.09	T.					4.68
Bayfield	do		.02		1.49		.10	.16			.47	.34								.11	.98	1.40	.03	.08	.34	.13	.08					5.73
Cecil	Fox	.06			2.13		.03	T.				.12					.42	.56			.84	.34	.16	.06	.12	.78	.08				T.	5.70
Cornucopia	Lake Superior		.04		.85		.27	.07			.24	.10								.26	.08	.52		.04	.42	.21	.05					3.15
Crandon	Fox	T.		1.66								.10					.12				.72	.70	T.		.48	.06						3.84
Florence	Menomonee			1.35			T.					.28					.31					2.45	T.		.48							4.87
Fond du Lac	Fox						.30	.10				.26					.80	.56			.96	.37				.02				T.	.20	3.57
Grand River Locks	do	.05		T.				T.	.06		.30						.53	.07			1.35	.10		T.		.46				.06	.55	3.53
Green Bay	Lake Michigan	.02		.34								.04					.94	.01			1.83	.02	T.		.31	T.					.05	3.56
High Falls	do			.51		T.		.01				.01					.41	.15			1.60	.28	T.		.03	.71						3.71
Iron River	Lake Superior			1.40		.05	.15				.40	.35								.30	.10	.70		.15	.40	.15	.05					4.20
Kewaunee	Lake Michigan	.02		.18								.16					.73	.17			.85	.30	.08			.02					.07	2.58
Manitowoc	do	.08		T.				.34				.18					1.00				1.10	.06									.18	2.94
Menasha	Fox		T.					T.				.09					1.55				1.30	T.				.05					.18	3.17
Menomonee Falls	Lake Michigan	.23							T.			.22					.58	.27			1.24	.27	T.		.12	.07				.09	.29	3.38
Milwaukee	do	.04						T.				.18				.13	.48	T.			.77	.05	T.	T.	T.	T.				.01	.39	2.05
New London	Fox			.37								.06					.75	.05			T.	2.60				.25					.35	4.43
Oconto	Lake Michigan			1.80													.90				1.65					.60						4.95
Oshkosh	Fox			T.					.06			.13					1.00	.50			1.74				T.	.20					.06	3.69
Pine River	do	T.		.04	T.			T.				.24					.81	.04			1.62	.46		T.	T.	.46					.17	3.84
Plum Island	Lake Michigan	.03		1.32								.05					.55	.74			.71	.74	.18			.45						4.77
Plymouth	do	.05						.15				.14					.67	.25			1.15	.22	.04		.01	.01					.09	2.78
Port Washington	do										.10						.72	.16			.55	.05									.03	1.61
Racine	do	.03							.02			.10					.37	.66			.74	T.	.04							.02	.10	2.08
Ripon	Fox			.05				.08				.23					1.16	.68	T.		1.35	.38			T.	.21				.02	.22	4.38
Sheboygan	Lake Michigan	.15							.09			.14					.48	.49			1.36	.24	T.		T.	T.					.48	3.43
Sturgeon Bay	do	.04		1.21			.11	.19				.02					.66	.23			1.20	.64	.16	.10	.04	.07						4.67
Superior	Lake Superior		.06		1.62			.07				.80									.11				.13	.68	.01					3.48
Waupaca	Fox			.42			T.	.08				.11					.63	.18			1.67	.63				.39					.43	4.54
Illinois.																																
Chicago	Lake Michigan								.02			.01				.24	.73	T.	T.		.15	T.				.04			.01	.11	.18	1.49
Highland Park	do						T.		.17			.15				T.	.46	T.			.16	T.	T.			T.			T.	T.	.41	1.35
Indiana																																
Auburn	Maumee				.15				.07	.31			.10				.50	.55	.14			.23					T.			.27	T.	2.32
Berne	do	T.		T.			.10		.15				.39				.64	.19			.25	.04	.05				.06			.10	.17	2.14
Fort Wayne	do								.14			.09	.23			T.	.80	.01			.24	T.		T.		.03		.13	.12	1.22	3.01
Hammond	Lake Michigan					T.		.95				T.					.05	.18			.10		.09					T.	T.	.10	.38	1.85
Howe	St. Joseph								.81	.56							.35	.16					T.			.30				.15		2.33
Notre Dame	do					T.		.03	.14			.05				.11	.27	T.			.20	.18	.26			.02	.13		.02	.02	.74	2.17
Whiting	Lake Michigan					.02			.14			.02					.38	.13	T.		.18	T.	T.				.03		T.	.06	.18	1.14
Michigan— Upper Peninsula.																																
Baraga	Lake Superior		.20		.50						.20						.10				.60	.40			.80	.20						3.00
Bergland	Ontonagon			.45	.62							.23								1.62	1.75	.21		T.	.55							5.43
Calumet	Lake Superior		.12		.26			T.				.20									.86	.82	.22	.08	.50	.02						3.08
Chatham	do			.65													.50				1.00	1.00	.30	.10	.10	.05						3.70
Deer Park	do		T.	.15								.20					.30	.40			.15	.50	.20	T.		.18						2.08
Eagle Harbor	do		.20		.20							.20									.40	1.80		.10	.60	.10						3.60
Escanaba	Lake Michigan	T.	.81	.12	T.			T.				.03	T.				.53				1.64	.08		T.	.30	.03						3.54
Ewen	Ontonagon																															
Grand Marais	Lake Superior		.05	.10	.08	T.	T.	.90									.40	.20			.50	.50	.30	.20	.10	.20						3.53
Houghton	do		.13		.36		.08	.01				.16									1.27	.86	.20	.15	.40	.10	.29					4.01
Humboldt	Escanaba			.50	T.												.58				2.00	T.	.20		1.80							4.08
Iron Mountain	Menominee			1.40			.40					.02					.20	.12			1.52	.45	T.		.28	.07						4.46
Iron River	do		.45	.95	.35							.35					.35	.24			1.35	.95	.15	T.	.95	T.	T.					6.09
Ironwood	Lake Superior		.37	.32	.54		.13					.96									.63	1.93	T.	.12	.73	.18						5.91
Ishpeming	Escanaba		.02	.35	.06							.33	T.				.40	.09			1.65	.61	.35	.04	.60	.06						4.53
Isle Royale	Lake Superior																															
Mackinac Island	Lake Huron	.02		.57	T.			T.				.05					.27	.13			.31	T.	T.			.27	T.					1.62
Maple Ridge	Lake Michigan			1.23												.35	.10				1.30	.15			.10	.12						3.35
Marquette	Lake Superior		.30	.01	.02	.01	T.					.32	T.				.52	.03			1.18	.68	.13	.13	.37	.06						3.76
Menominee	Menominee	.08	1.34					T.				T.					1.03				1.53	.36			.50	T						4.84
Munising	Lake Superior			.47	.01				.24								.46	.22			1.07	.45	.62	.03	.08	.11	.01					3.77
Newberry	Tequamenom	T.		.45				.02				.12					.26	.26			.30	.11	.18	.01	.11	.21	T.					2.03
Ontonagon	Lake Superior	.60			.55							.25									1.30	1.10	.30	.30	.40	.40						5.20
Powers	Lake Michigan																															
St. Ignace	Lake Huron																															
Sault Ste. Marie	St. Marys	.07	.01	.10				T.				.08					1.07	.16			.45	T.	.31	.02	.05	.04	T.					2.36
Seney	Manistique						.05	.03				.02					.37	.12			.24	.28	.17		.10	.29						1.67
Thomaston	Lake Superior																															
Victoria	Ontonagon			.37	.70						.19										1.95	T.	1.88	.06	.65	.10	.02					5.92
Watersmeet	do	T.	.46	.24	.32							.10						.01			1.74	.60	.14	.03	1.05	.02						4.71
Whitefish Point	Lake Superior			.05				.16				.30					.26	.08				.14	.20	.01	.07	.09	.10					1.46
Michigan—Lower Peninsula.																																
Adrian	Raisin				.16			.29	T.								.28	.85			.36						T.					1.94
Allegan	Kalamazoo											T.					.71	.44			.37	.61	.19				.10		.11	.06		2.59
Alma	Saginaw	.08		T.				T.	.26			T.					1.00	.10			.50	.20	.08				.08					2.30
Alpena	Lake Huron	.17		.58	T.		T.	T.				T.		T.			.28	.34			.37	T.	T.				.03					1.77
Ann Arbor	Huron				T.			T.	T.								.11	.57			.62		.02				.06					1.38
Arbela	Saginaw	.10						.56	.72								.28	.36			.41						.12				.41	2.99
Armada	Clinton	T.						.11	.04								.06	.33			.54	T.	T.				.14					1.22
Battle Creek	Kalamazoo	T.							.03								.53	.20				.31	.08				.15			.06		1.36
Bay City	Saginaw																.30	.15			.48	T.				.18						1.11

TABLE 2.—*Daily precipitation for September, 1913. District No. 4*—Continued.

Stations.	Watershed.	Day of month.																											Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Michigan—Lower Peninsula—Contd.																															
Benzonia	Betsey	T.		.19				T.				.09					.81	.41			.05	.39	.50	.06	T.	.17	.63					3.30
Big Rapids	Muskegon	.16				.03											.55	.73			.13	.03	.04								T.	1.67
Bloomingdale	Lake Michigan											T.					.63	.10			.10	.37	.56				T.			.10	T.	1.86
Cadillac	Manistee	.02		.05					.25								.52				.72		.09									1.65
Cassopolis	St. Joseph																															
Charlevoix	Lake Michigan				.39													1.00													
Charlotte	Kalamazoo																.51	.05			.12	T.	T.									0.68
Cheboygan	Cheboygan	T.															.75															
Clinton	Raisin																.23	.17			.32		T.							.18		0.90
Coldwater	St. Joseph							T.	.05								.25	.08			.25		.02				.10			.02		0.77
Croton	Muskegon	.02										.13					.68	.35			.08	.04	.05				.02				1.01	2.38
Detroit	Detroit	.03			T.	T.		.06				T.					.11	.15			.65		T.				.07			.01	.10	1.18
Durand	Saginaw							.10	.58								.30	.10			.20										.30	1.58
East Tawas	Lake Huron	.45		.18				.04									.20	.10			.55											1.52
Eloise	Rouge	.05						T.									.02	.02			.50		.01	T.			.05			.06		0.71
Five Channels	Au Sable																															
Flint	Saginaw	.04							.12								.25				.79	.05					.12			.02	.04	1.43
Frankfort	Betsey			.21													.11	.73				.20	.45			.11						1.81
Ganges	Lake Michigan	T.															.98	.11			.27	.18	1.08	.01						.11	.06	2.80
Gaylord	Cheboygan								.42			T.					.39	1.35			.33	.02	.13	T.								2.64
Gladwin	Saginaw																															
Grand Haven	Grand	.03						T.	T.			.02				.01	1.28	.06			.17	.35	.53	T.	T.	.02	.02			T.	.53	3.03
Grand Rapids	do	.02						T.				T.				T.	.89	.09			.08	.07	.03			.02	T.		T.	.01	1.04	2.25
Grape	Raisin	.01						.24	.01									.17			.20		.01				.03			.15		1.07
Grass Lake	Grand																.40	.10			.28		T.				T.			T.		0.78
Grayling	Au Sable	.48		.39			.48										.43	.65			.39											2.82
Greenville	Grand							T.				T.					.75	.60			.50	.12	.14			T.						2.11
Harbor Beach	Lake Huron	.05																.35			.65						.15					1.20
Harrison	Saginaw					.13			.30								.44	1.00														1.87
Harrisville	Lake Huron			.07				.05								.03	1.01				.06											1.22
Hart	Pentwater						.04										.65	.63				.82	.65									2.79
Hayes	Pigeon	T.		.03					.49								.25	.10			.33	.10	.11									1.41
Highland	Huron							.25	.26								.24				.77	.05									T.	1.57
Hillsdale	St. Joseph			T.				T.	T.								.32	.21			.87		T.				.01			.12	T.	1.53
Holland	Lake Michigan								.04								.78	.05			.20	.27	.81	.05			.05					2.25
Houghton Lake	Au Sable			.30				.43									.29	.92			.62	.03										2.59
Howell	Saginaw							T.					T.				.30	.15			.20	.25	.15							.02	.05	1.12
Ivan	Manistee	.05		.22		.02		.80				T.					.50	1.50			.35	.02	.36				.01					3.89
Jackson	Grand	T.						.07									.40	.07			.50		.05				.06			.07		1.22
Jeddo	St. Clair							.14	.05								.03	.13			.52		.03				.19					1.09
Johannesburg	Cheboygan	T.		.67				.48				.01					.35	.96			.45	.02	.21	T.			T.					3.15
Kalamazoo	Kalamazoo								.30								.42	T.			T.		.55				T.			T.	T.	1.30
Lansing (Agr. Col.)	Grand							.05	.04								.43	.11			.47	.03	.01				.08				.31	1.63
Lansing (Capitol)	do		.02						.17				T.				.28	.24	T.		.02	.34	.00				.10				.02	1.25
Lapeer	Saginaw																															
Ludington	Pere Marquette	.01		T.	T.			.08				.01				T.	1.11	.21			.25	.35	.08	.05	T.	.04					.13	2.28
Luther	Manistee	.05		.02					.01			T.					.70	1.08			.18	.18	.15	.02			.03				T.	2.42
Mackinaw	Lake Huron	.10		.55							.15												.43									1.23
Mancelona	Lake Michigan	.26		1.21				.25				T.					.30	.70			.29	.24	.18									3.55
Manistee	Manistee	.05		.10				T.									.68	.38			.08		.58	.18		.10	.05				1.60	3.86
Marshall	Kalamazoo																															
Midland	Saginaw							.10	.70			T.					.90				.60	.20	T.									2.50
Morenci	Maumee			T.				1.25	.03								.45	1.08			.30								.55			3.70
Mount Clemens	Clinton							T.	T.				T.				T.	T.			.50		T.				T.			T.		
Mount Pleasant	Saginaw															.23	.20	.13														
Muskegon	Muskegon																1.40						.60									
Old Mission	Lake Michigan	.12		1.65				.81				.01					.50	1.52			.34	.01	.30			.12	.03					5.51
Olivet	Kalamazoo	T.							.22			T.					.40	.12			.18	.08	.07	.01			.09			T.	.24	1.50
Omer	Lake Huron			.03				.03										.01			.01											
Onaway	Cheboygan																															
Owosso	Saginaw	.11						.52									.35	.05			.80		.03	.01							.44	2.31
Petoskey	Lake Michigan	.15		.40																							.50					1.05
Plymouth	Rouge																T.	.45		.50		T.	T.				T.			T.	T.	0.95
Pontiac	Clinton							.71	.17								T.	T.			.32											1.20
Port Austin	Lake Huron		.11	.05					.03								T.	.13			.35		.07									0.72
Port Huron	St. Clair	T.		T.		T.		.04	.01			T.					.01	.02			.48						.09					0.09
Reed City	Muskegon	.13		T.					.24			T.	T.				.70	1.40			.35	.03	.02				T.					2.87
Roscommon	Au Sable								.47								.30	1.53			.41	.10	.08									2.89
Saginaw, East Side	Saginaw																															
Saginaw, West Side	do	T.				.02		.49				T.					.34	.13			.44	.03	T.			T.	.09			T.	.19	1.73
St. James	Lake Michigan	T.		.25	T.			.03				.16					.40	.52			.15	.09	.43			.07	.08					2.13
St. Joseph	St. Joseph	T.							.55		T.					T.	.75	.20				.22								.30	.50	2.52
Sandusky	Lake Huron							.12									.08	.14			.64						.12				.04	1.14
Saranac	Grand								.37								.65	.03			.40	.13										1.18
South Haven	Lake Michigan															.83	.15				.40	.78					.05			.02	.09	2.22
Thornville	Saginaw						.10	.16	.10									.20								.22				.08	.03	0.89
Traverse City	Lake Michigan			.70		T.											.52	.60			.23	.09	T.				T.					2.14
Vassar	Lake Huron							.68									.40	.29			.55						T.			T.	.28	2.20
Wasepi	St. Joseph							.02	.42			.01				.02	.60	.12			.11	.05	.10							.10	.80	2.35
Weber Dam	Grand	.02							.34								.78	.02			.20	.04									.16	1.56
West Branch	Lake Huron																															
Ypsilanti	Huron							.25									.22	.41			.50		.04							.17		1.59
Ohio.																																
Akron ‖	Lake Erie	T.							.84			.11						.20	.41			.88			T.			.04		.36	.26	3.10
Antwerp	Maumee								.24								.86				.19									.22	.95	2.46
Benton Ridge	do				1.03			.07	.18			.06					.24	.96			.19	.04	T.				T.			.28		3.05
Bowling Green	Lake Erie				.26			T.				T.					.37	.21			.30						T.			.34		1.48
Bucyrus ‖	Sandusky								.25			.10	T.				.10	.45	.30	.05	.25	.55	.05							.12	.05	2.27
Cleveland (1)	Lake Erie				.07				.08			T.	.01				.22	.22	T.		.26	T.	T.				.04			.29	.91	2.10
Cleveland (2)	do				.25				.19				.04				.20	.45	.01		.34		T.				.04			.33	.74	2.59
Conneaut	do																.05	.18	.34		.16	.09					.09				.03	0.94
Findlay ‖	Maumee				.02	.12			.04				.04				.03	.24	.72		.03	.19	.02								.40	.05	1.90
Fremont	Sandusky				.04								.04				.19	.45	T.		.41						.04				.44		1.61
Hedges	Maumee							.70	.07			.15			.62	.11					.63	.04					.06				.34		2.72
Hillhouse	Lake Erie					T.			.21								.07	.73	.10	T.	.40	.10	T.				.07				.10	.84	2.62
Hiram	do		T.					.55	.20				T.				T.	.28	.11		.34	.04	T.				.09				.12	.03	1.76
Hudson	do							.81	.56				.08				.17	.20	.03		.53		.05				.04				.35	.26	3.08

TABLE 2.—*Daily precipitation for September, 1913. District No. 4*—Continued.

Stations.	Watershed.	Day of month.																											Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Ohio—Continued.																																
Lima ||	Maumee							T.	.35				.38				.02	.22	.08		T.	.20	.05							.12		1.42
Medina ||	Lake Erie							T.	.05				.05				.12	.11			.28						T.			.52	.07	1.20
Montpelier	Maumee							.14									.57	.95			.55									.71		2.92
Napoleon	do			.90				.25				.05				.07	.25	.14		.01	.51								.44		1.25	3.87
New Bremen	do						T.	T.	.07				.18			T.	.25	.34	.28		.20		.05							.11	T.	1.48
North Royalton	Lake Erie								.63				.10				.10	.32	.10		.21									.50		1.96
Norwalk ||	do								.04	.07			.04					.44	.04		.12	.33	.03					.03		.38	.10	1.62
Oberlin	do				.08			T.	.36				T.				.15	.49	.03		.45	.12	T.				.05			.55	.88	3.16
Ottawa	Maumee				.08			.35					.44				.25	.43			.60	.02					T.			.28	.02	2.47
Sandusky	Lake Erie	.01			T.				.30			.03	.01				.17	.23			.25						.03			.53	.62	2.18
Tiffin	Sandusky				T.			.04					.02				.20	.34			.23	T.					.06			.56	T.	1.45
Toledo	Maumee	T.		T.	T.	T.		.55				.02					.08	.03			.67	T.					.02			.67	.47	2.51
Upper Sandusky	Sandusky				T.			.15	.15				T.				.40	.50			.43						.10			.10	.05	1.88
Vickery	Lake Erie				.36				T.				.07				.22	.48			.23						.04			.53	.35	2.28
Wapakoneta	Maumee							T.	.06				.21				.46	.22	.03		.24	.07	.09				.04			.18	.01	1.61
Wauseon ||	do	.02			.05				.58				T.				.20	.29	.09			.34	.01				.02			.58	.05	2.23
Wickliffe ||	Lake Erie				.86				1.05				T.				.15	.47	T.		.20						.06			.16	T.	2.95
Pennsylvania.																																
Erie	Lake Erie			T.					T.								.03	.22	T.		1.30	.05	T.	T.			.08				.01	1.69
New York.																																
Adams Center	Lake Ontario					T.								.17				.10				.54	1.28	.10			.05					2.24
Angelica	Genesee				T.													.34	.07			.46	.13				T.	.03		T.	.13	1.16
Appleton	Lake Ontario			T.	.10				T.					T.		T.		.22				.36	.07				.14					0.89
Auburn	Oswego													.13				.17	.08			.42	1.63					.06				2.49
Avon	Genesee			T.	.10				T.					T.				.29	.15			.71										1.25
Brockport	Lake Ontario			.01	.17				.18					T.				.16	T.			.60	.15				T.					1.27
Buffalo	Lake Erie			T.								T.					.07	.09	T.		.09	.53	.45	.08			.04				T.	1.35
Canisius College	do			T.	T.												.05	.11	T.			.52	.40	.22			.07					1.37
Canton	Grass			.09	.02				.16					.48	T.			.35	.22			.66	.19				.06	.03				2.26
Cape Vincent	St. Lawrence														.10			.58				1.42	.14				.05					2.29
Chazy	Lake Champl'n			.23					.23														1.70	.15								2.31
Chestnut Lawn	Genesee								.01								T.	.20	.02	.01		.51	.12				.03				.15	1.05
Dannemora	Lake Champl'n			.25	.05									.10				.15	.10				2.05	.15								2.83
Elba	Lake Ontario				T.													.18	T.			.42	.31				T.					0.91
Fayetteville	Oswego				.22	.03			.02			T.		.18				.22	.03			.92	.80	.03				.05				2.50
Gabriels	St. Regis			.12				.04									.16	.30	.20			.90	.38				.08					2.18
Geneva	Oswego				.08				.03					.02				.45	.06			1.33	.67									2.64
Harkness	Lake Champl'n			T.	.04				T.					.56				.05	.03			T.	1.89	.35			T.					2.92
Hemlock	Genesee			T.		T.			T.					T.				.22	.04		T.	.83	T.				.05				.05	1.19
Hunt	do																	.25				.70									.22	1.17
Ithaca	Oswego					.06			T.								.01	.37	.02		.01	2.76	.02				.01				.02	3.28
Keene Valley	Au Sable			.04	.09									.28			.06		.04			.18	1.92		.04	.11						2.76
King Ferry	Oswego			T.					T.									.53	.09			2.20	.55									3.37
Lake George	Lake Champl'n																	.11	.05			.35	1.80					T.				2.31
Lake Placid Club	Au Sable				.55				.03					.19	.02			.10	.33	T.		.10	1.24	.05			.03	.05				2.69
Lauterbrunnen	Genesee								T.									.19	.04			.50	.13	.01			.02				.21	1.10
Lockport	Lake Ontario				.87												.07					.40	.08				.19					1.61
Lowville	Black				.02				T.					.19	.09			.23	.20			.28	1.54					.01				2.56
Moira	St. Lawrence			.23										.50				.24	.33				1.01	.20			.01					2.52
Nehasane	Black				.07				.04					.14	.11			.14	.71			.03	1.52	.02			T.	.06				2.84
North Lake	do				.40				.09					.20				.12	.41			.70	.40					.10				2.42
Ogdensburg	St. Lawrence			T.	.20				T.					.52				.14	.32			.20	.95				.05	.03				2.41
Old Forge	Black				.12				.05					.30	.05			.15	.55			.07	1.13					.05				2.47
Oswego	Lake Ontario			.20	.11				.42					.01			.05	.15	T.		T.	2.12	.12			.01						3.19
Otto	Lake Erie																															
Palermo	Lake Ontario				.18				.05					T.	T.			.24	.15			.37	2.26	T.				.03				3.28
Perry City	Oswego					.02								T.				.48	.11			2.43	.56									3.60
Philadelphia	St. Lawrence				.12				.15					.15	.20			.20	.18			.34	1.00	.29			.04	.05				2.72
Potsdam	Raquette				.13									.08	.50			.17	.49				.97	.01				.19				2.54
Ranger School	Oswegatchie				.26									.24	.08			.26	.31			.02	1.52	.01			.06	.06				2.82
Raquette Lake	Raquette				.14				T.					.21	.10			.16	.42			T.	1.38					.08				2.49
Rochester	Genesee			.03	.04				T.					.10			.07	.13	.01		T.	.87	.35				T.					1.60
Romulus	Oswego				T.													.31	.18			2.43										2.92
Scottsville	do																															
Shortsville	do													T.				.26				1.03	.50				T.					1.79
Skaneateles	do													.26			.05	.25	.01			2.27					.09					2.93
Syracuse	do			.07	.09	T			.01			T.		.10			.04	.11	T.			1.40	.02				.03				T.	1.87
Tupper Lake	Raquette																															
Volusia	Lake Erie																T.	.14	.36			.32		.02			.12				.24	1.20
Wanakena	Oswegatchie				.30									.30	.09			.26	.33			.03	1.37	.02			.10	.10				2.90
Watertown	Black				.07				.03					.03				.10	.17			.75	.73	.30			.10					2.28
Wedgwood	Oswego																T.	.39	.07	.02		2.15	.38				T.				T.	3.01
Westfield	Lake Erie					.31											.06	.21	.36			.61	T.	.06			.14					1.75
York	Genesee				.02				T.					T.			T.	.23	.16	T.		.77	.17				T.				T.	1.35
Vermont																																
Burlington	Lake Champlain			.19					T.					.27				.08	.06			.05	2.01					T.				2.66
Cornwall	do			T.					T.						T.			.03	.12			.05	2.05					T.				2.25
Enosburg Falls	do			.86	.07				.13			T.		.30	.01			.03	.23			.02	2.42	T.			.04					4.11
Hyde Park	do			.21	.01									.46				.01	.17	T.			1.28					.01				2.15
Northfield	do			.42	.03				T.					.06				.04	.05	.01		.07	1.12				.04	T.				1.84
Wells	do				.06				.51					.08				.04	.18			.06	1.55					.14				2.62

* Precipitation included in that of the next measurement.
‡ Separate dates of falls not recorded.
|| Precipitation for the 24 hours ending on the morning when it is measured.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 3.—*Maximum and minimum temperatures for September, 1913. District No. 4, Lake Region.*

Date.	Duluth, Minn.		Wisconsin.						Chicago, Ill.		Fort Wayne, Ind.		Upper Michigan.										Lower Michigan.					
			Florence.		Green Bay.		Milwaukee.						Escanaba.		Ewen.		Houghton.		Marquette.		Sault Ste. Marie.		Alpena.		Battle Creek.		Cadillac.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1....	80	55	89	57	91	67	82	70	95	72	93	67	77	65	.....	.....	94	58	92	60	81	57	78	62	95	62	86	65
2....	80	61	85	73	94	70	96	75	97	78	96	68	79	68	.....	.....	86	62	85	64	82	62	92	64	99	66	92	71
3....	61	51	74	56	70	61	80	65	83	69	94	70	72	55	.....	.....	66	53	65	54	74	55	71	56	93	67	78	62
4....	59	51	67	52	74	57	72	65	73	66	75	64	63	54	.....	.....	56	52	59	53	62	49	60	55	79	62	73	51
5....	60	52	77	48	79	60	74	66	76	69	80	62	66	56	.....	.....	71	52	77	54	73	48	67	54	85	59	78	52
6....	79	53	80	61	90	64	76	68	82	70	90	61	73	62	.....	.....	88	61	83	62	80	56	71	53	91	56	85	55
7....	78	57	84	69	90	68	91	70	93	75	88	68	85	60	.....	.....	80	61	84	60	82	58	80	62	93	63	88	67
8....	62	49	71	47	70	54	70	61	77	67	77	57	66	50	.....	.....	63	48	60	53	63	49	69	55	77	65	74	55
9....	58	48	68	33	69	44	69	60	70	63	73	52	62	48	.....	.....	66	44	66	48	62	42	58	50	72	47	66	50
10....	66	57	70	49	74	53	71	61	72	60	79	46	65	58	.....	.....	78	53	72	52	68	42	64	42	80	43	71	45
11....	70	47	68	56	69	55	70	58	77	64	84	50	68	52	.....	.....	67	56	67	56	58	49	69	50	84	48	74	47
12....	65	41	61	41	66	48	69	54	71	58	71	51	60	44	.....	.....	57	47	56	48	60	45	70	46	75	53	67	45
13....	58	42	60	33	65	46	66	49	66	55	69	46	59	39	.....	.....	54	38	53	39	48	34	54	39	70	42	58	37
14....	60	48	69	33	72	45	67	57	69	58	66	44	62	42	.....	.....	68	38	64	39	57	32	54	36	69	40	65	36
15....	73	50	68	48	70	52	68	60	70	58	70	45	64	56	.....	.....	74	53	70	53	65	43	60	43	75	43	68	40
16....	62	46	58	47	60	55	67	61	71	63	70	58	60	55	.....	.....	63	50	55	51	58	47	61	57	69	49	63	51
17....	65	49	65	50	64	54	67	58	68	61	70	59	62	48	.....	.....	65	49	58	49	61	48	64	52	68	57	65	54
18....	63	43	65	31	65	48	64	59	63	60	65	51	62	44	.....	.....	69	44	67	48	67	42	60	46	61	52	65	43
19....	58	45	63	34	68	48	65	56	68	55	73	48	62	54	.....	.....	68	45	65	48	65	41	63	41	70	42	61	45
20....	46	37	61	40	64	36	65	40	66	45	69	44	60	43	.....	.....	59	39	58	42	60	50	62	50	71	47	63	52
21....	44	34	41	33	43	37	46	38	49	42	51	42	45	37	.....	.....	40	34	42	36	54	46	56	43	49	42	55	41
22....	43	28	43	31	46	37	46	37	49	38	48	37	45	32	.....	.....	40	33	40	35	53	42	52	42	50	39	47	38
23....	44	32	47	28	54	37	62	40	67	43	64	34	51	30	.....	.....	43	35	44	34	48	41	53	40	61	35	55	39
24....	47	44	62	42	77	52	81	60	81	61	80	53	63	51	.....	.....	51	43	61	44	60	43	65	52	81	42	73	49
25....	49	42	64	49	63	46	70	51	77	53	78	54	60	43	.....	.....	50	45	55	47	71	48	79	53	79	50	72	57
26....	61	38	56	39	58	40	60	42	59	45	61	45	59	39	.....	.....	56	43	60	45	53	46	58	44	54	50	63	44
27....	70	48	66	36	68	42	64	47	60	50	66	40	61	39	.....	.....	66	39	68	44	64	38	59	40	66	38	67	40
28....	71	45	69	43	68	46	69	50	68	53	70	41	63	45	.....	.....	69	51	73	50	70	46	72	44	70	39	66	48
29....	55	44	71	40	67	47	64	58	66	62	70	60	65	45	.....	.....	60	43	58	46	65	42	67	45	67	45	71	45
30....	67	44	70	35	60	54	62	56	68	59	74	56	64	45	.....	.....	60	41	53	45	62	42	58	49	75	59	71	53
Mns..	61.8	46.0	66.4	44.5	68.9	50.8	69.1	56.4	71.7	59.1	73.8	52.4	63.4	48.6	.....	.....	64.2	47.0	63.7	48.7	64.2	46.1	64.9	48.8	74.3	50.1	69.3	49.2

Date.	Lower Michigan.						Ohio.								Erie, Pa.		New York.								Vermont.			
	Detroit.		Muskegon.		Saginaw, west side.		Cleveland.		Lima.		Sandusky.		Toledo.				Buffalo.		Canton.		Rochester.		Syracuse.		Burlington.		Northfield.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1....	86	67	90	60	82	65	87	66	92	60	92	68	90	67	84	65	83	64	82	50	84	58	82	57	80	52	83	43
2....	95	71	94	68	95	66	92	68	95	65	94	69	97	70	90	68	87	68	88	52	92	61	90	61	90	53	89	45
3....	87	65	86	68	78	63	90	70	95	65	91	70	96	68	91	73	85	69	83	62	86	66	90	70	86	60	92	52
4....	73	61	80	56	69	58	72	63	73	66	71	66	70	64	74	63	69	58	62	48	66	58	70	57	62	49	68	48
5....	75	55	85	60	78	55	68	63	83	63	71	66	73	61	68	62	71	56	70	47	68	59	75	56	70	47	74	43
6....	82	59	86	60	86	53	74	63	90	61	76	65	80	61	74	60	82	58	80	40	74	56	80	54	79	42	79	34
7....	83	66	83	63	92	62	82	66	83	64	89	67	92	67	87	65	79	63	85	56	84	61	87	68	78	58	81	44
8....	73	55	80	62	70	52	76	64	76	67	74	65	75	55	73	63	73	60	72	52	75	61	73	57	72	56	74	55
9....	66	53	74	48	65	49	64	54	74	49	67	58	65	52	63	50	61	47	60	37	61	47	60	45	58	43	56	31
10....	73	55	78	45	74	47	71	48	79	44	72	48	71	52	67	47	69	43	62	30	63	40	67	41	61	33	62	26
11....	79	58	75	50	80	49	71	50	84	45	75	53	78	55	74	50	70	47	68	45	73	43	66	49	63	36	60	30
12....	72	52	68	40	71	44	61	58	69	53	69	60	73	54	65	60	68	59	68	47	70	56	70	51	68	40	69	32
13....	63	45	72	42	61	40	64	49	68	43	63	50	67	45	62	49	59	45	55	44	57	46	60	48	60	47	65	42
14....	62	45	70	40	64	38	58	42	67	42	61	44	62	45	55	39	57	42	51	33	52	37	53	40	52	34	50	27
15....	67	53	68	44	71	43	73	45	74	43	69	46	67	49	67	45	66	39	61	28	62	39	62	33	60	30	60	22
16....	66	58	65	40	66	56	65	56	75	48	71	57	70	56	72	55	72	52	71	38	75	47	73	47	72	32	71	23
17....	73	59	67	42	68	56	74	59	74	55	74	60	74	57	70	57	66	58	69	52	69	56	68	55	68	53	69	39
18....	59	55	66	39	63	49	60	55	66	57	62	58	60	55	62	53	62	51	63	50	65	52	66	53	64	50	66	32
19....	54	51	68	45	68	43	64	54	73	48	65	53	64	54	64	50	64	48	67	48	65	52	64	52	60	52	59	51
20....	74	49	74	44	73	48	77	56	74	49	77	52	74	50	80	58	76	54	75	48	76	53	72	50	66	48	58	51
21....	52	44	70	40	53	43	56	46	53	43	55	46	56	43	64	49	64	49	76	56	67	52	74	52	72	57	65	54
22....	50	41	68	40	52	42	50	40	48	40	52	38	53	40	54	44	55	45	57	46	61	45	61	49	70	53	72	55
23....	58	37	62	38	59	38	57	39	65	31	65	36	62	36	57	42	54	46	58	43	58	42	58	45	61	49	62	39
24....	79	52	74	52	78	49	79	51	78	36	81	52	80	54	77	46	74	42	62	43	70	42	65	44	63	41	64	35
25....	79	58	72	50	79	54	81	56	77	49	82	56	79	57	81	58	74	62	77	47	84	57	81	58	73	44	75	36
26....	62	44	62	38	60	42	67	55	61	56	63	47	62	46	71	54	68	49	77	47	66	48	77	50	73	53	75	46
27....	68	41	64	35	67	38	60	48	64	34	62	42	65	44	61	53	62	46	55	33	62	44	61	48	58	44	58	35
28....	69	49	66	40	70	44	71	46	72	37	73	47	73	48	70	47	68	50	67	34	72	44	69	42	68	34	68	30
29....	66	57	70	43	71	54	67	60	72	59	70	58	68	58	68	61	65	56	70	47	73	53	72	53	71	45	70	49
30....	72	57	77	40	73	55	67	62	75	60	69	58	69	58	64	58	66	54	56	33	60	52	69	46	55	33	63	32
Mns..	70.9	53.7	73.8	47.7	71.2	49.8	70.1	55.1	74.5	51.1	71.8	55.2	72.2	54.0	70.3	54.8	69.0	52.7	68.2	44.5	70.0	50.9	70.5	51.0	67.8	45.6	68.6	40.0

a, b, c, etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.
§§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.

CLIMATOLOGICAL DATA FOR SEPTEMBER, 1913.

DISTRICT NO. 5, UPPER MISSISSIPPI VALLEY.

GEO. M. CHAPPEL, District Editor.

GENERAL SUMMARY.

The principal feature of the weather for September was a six to eight day period of remarkably high temperature, occurring at the beginning of the month. Over much of the central part of the district it was the warmest period of like length on record in September, as well as the warmest of the entire summer of 1913. Moreover, this period can be compared with the hot spells of any month in the past. Over extensive areas the temperature rose to 95° or higher daily, and in many cases all previous records for high temperature in September were equaled or surpassed. The hot period was practically rainless in the corn-growing sections, and as a result that crop suffered much additional deterioration. Permanent relief from the trying conditions of the summer set in on the 8th. The change to cooler was most welcome, and brought to a close over the southern part of the district one of the hottest seasons in the history of the Weather Bureau. At Springfield, Ill., there were 62 days during the summer with a temperature of 90° or higher, while at Mount Vernon, in the southern part of that State, there were 78 such days. Most of the remainder of September after the passing of the hot spell was cooler than usual, with timely precipitation in most sections. The deficiency in temperature was sufficient to almost counterbalance the large excess accumulated during the hot spell; thus the month as a whole was only slightly warmer than usual. The occurrence of early killing frosts was another feature of the month. These were recorded early in the third decade as far south as Missouri and northern Illinois. At Des Moines, Iowa, it was, with one exception, the earliest occurrence of this phenomenon in the last 36 years. Considerable damage resulted to garden truck and other vegetation in some localities, but the staple crops of the district had generally passed the stage of susceptibility to injury.

The month was unusually free from severe storms; one of note, however, occurring at Albia, Iowa, on the 5th, which press dispatches refer to as a "small tornado." The wind tore down a circus tent, one person being killed and several injured.

An effect of the drought of the past summer was reported from the vicinity of Burlington, Iowa. Many small lakes and sloughs dried up, leaving thousands of fish stranded. The rains of the month improved pastures and put the ground in good condition for fall plowing and seeding.

The following table presents in condensed form the leading features of climatological interest for the various parts of the district:

Parts of States within District 5.	Temperature.				Precipitation.					
	Mean.	Departure.	Highest.	Lowest.	Average.	Departure.	Greatest total.	Least total.	Average snowfall.	Average number of days with precipitation.
North Dakota	57.0	+1.0	102	15	1.91	+0.19	4.98	0.64	0.4	6
Minnesota	58.9	+0.5	102	12	3.37	+0.63	6.35	1.26	T.	8
South Dakota	59.0	−1.4	100	19	1.92	+0.06	1.92	1.92	0	8
Wisconsin	59.3	−0.4	100	19	3.60	−0.03	6.57	1.26	0.1	8
Iowa	64.2	+0.7	106	21	3.33	−0.02	7.15	1.15	0	9
Missouri	69.2	+1.0	109	27	4.06	−0.17	6.03	1.26	0	8
Indiana	64.1	−0.3	103	30	2.16	−0.87	2.82	1.56	0	9
Illinois	66.7	0.0	106	29	2.84	−0.72	7.22	0.81	0	8

TEMPERATURE.

The mean temperature for the district as a whole was practically normal, the average being 58.5°, or an excess of 0.3°. Only in extreme northwestern North Dakota and northern Wisconsin was there a deficiency in temperature, but this was slight. On the other hand at no station did the excess of mean temperature exceed 2°. The remarkable hot spell covering the first six to eight days of the month gave an average daily excess of temperature of more than 15° over large areas, but the prevailing coolness of the remainder of the month served to almost compensate the accumulated excess, and the month as a whole goes on record as almost a normal one for mean temperature. In every instance the highest monthly temperature at the individual stations was recorded at the time of this hot spell. Temperatures of 100° or higher were reached in each of the States of the district. The highest temperature was 109°, on the 4th, at Steffenville, Mo. In a great majority of cases the lowest monthly temperatures occurred on the 22d or 23d; only a few stations reporting other dates. The lowest temperature reported was 12°, on the 22d, at Roseau, Minn.; this is the lowest temperature on record for that State in September.

PRECIPITATION.

The average precipitation for the district was almost the normal amount, being 3.14 inches, or a deficiency of 0.07 inch. The usual marked differences in geographical distribution occurred, but in general the amounts were greatest in Missouri and least in the Dakotas. In the

latter States, as well as in Minnesota, somewhat more than the usual precipitation occurred, while elsewhere there was a deficiency, but this was slight save in Indiana and Illinois, where it averaged about three-fourths of an inch. The greatest monthly amount was 7.22 inches, at Hillsboro, Ill., and the least was 0.64 inch, at Cando, N. Dak. In the north the precipitation of the month was timely, but over much of the south the great bulk of it occurred after the 15th. The average number of rainy days was eight.

Snowfall.—The first snow of the season fell in parts of North Dakota, Minnesota, and Wisconsin between the 20th and 25th. At most stations the amount did not exceed a trace, but over an isolated area in North Dakota where there are no stations an official measurement of 6 inches was made.

RIVERS.

Nothing of note occurred in connection with river conditions during the month. The stages in most of the rivers and streams were either low for the season or about normal. The rains of the month had but little effect on stages, indicating that the water was taken up by the soil.

MISCELLANEOUS.

Southeasterly winds prevailed, but in the Dakotas the winds were northwesterly. The movement was about that usually experienced. The highest velocity was 48 miles an hour from the north, at St. Paul, Minn., on the 20th. As a rule there was a slight excess of sunshine; the average number of clear days was 15; partly cloudy, 7; cloudy, 8.

ERRATA.

Report for June, 1913: All precipitation data on page 12 of the District No. 5, separate, and page 873 of the complete review are incorrect as to dates of occurrence, being published one day late; thus the data on the 2d should be for the 1st, etc.

Report for July, 1913; Dunseith, N. Dak.; days with 0.01 or more precipitation published, 7, should be 8. Forman, N. Dak.; lowest monthly temperature published, 46, should be 45, on 13th.

Report for August, 1913: Delavan, Wis.; total precipitation published, 1.69, should be 1.76. Belmond, Iowa; number of partly cloudy days published, 4, should be 17; number of cloudy days published, 17, should be 4.

TABLE 1.—*Climatological data for September, 1913. District No. 5, Upper Mississippi Valley.*

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Sky.				Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
North Dakota.																				
Amenia	Cass	954	17	58.1	+ 0.8	94[a]	1	23[a]	22	42[a]	2.30	+ 0.25	1.52	0	3	....	....	....	w.	C. E. Wood.
Bottineau	Bottineau	1,638	21	55.1	− 0.6	91	4	27	21†	44	1.02	− 0.77	0.32	T.	11	12	9	9	nw.	H. F. Steinmeier.
Bowbells	Burke	1,958	1	54.3	.....	92	4†	21	26	49	1.03	.....	0.30	T.	6	24	3	3	.....	G. H. Phelps.
Cando	Towner	1,488	12	57.2	+ 1.8	89[b]	6	20[b]	21	47[b]	0.64	− 0.86	0.21	0	5	....	....	....	.....	E. T. Judd.
Crosby	Divide	.....	6	55.0	.....	91	5	25	22	42	1.27	.....	0.52	1.0	3	25	1	4	nw.	H. C. Kaschau.
Devils Lake	Ramsey	1,482	8	56.4	+ 0.8	88	5	25	22	35	2.17	+ 0.78	1.11	0	9	15	9	6	se.	U. S. Weather Bureau.
Donnybrook	Ward	1,760	14	55.3	+ 0.5	94[a]	4	23[a]	21	46[b]	1.32	− 0.70	0.67	T.	3	24	1	5	nw.	C. J. DeVore.
Dunseith	Rolette	.....	17	55.7	+ 0.9	87[a]	4	25	21	43[c]	1.41	− 0.24	0.50	T.	7	12	10	8	nw.	C. E. Goodsell.
Eckman (near)	McHenry	.....	7	.....	.....	98	4	.....	.....	.....	0.81	.....	0.30	1.0	7	15	8	7	nw.	Geo. Yenny.
Fessenden	Wells	1,610	1	57.4	.....	97	4	23	22	52	1.41	.....	0.53	0	4	19	4	7	nw.	G. T. Seymour.
Forman	Sargent	1,249	21	61.1	+ 2.0	101	5	22	22	46	1.58	− 0.24	0.50	0	7	11	9	10	nw.	A. Maltby.
Grafton	Walsh	827	21	57.0	+ 1.1	92	6	20	22	47	1.91	0.00	1.75	0	5	20	6	4	se.	A. R. T. Wylie.
Granville	McHenry	1,504	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. A. Christianson.
Hannah	Cavalier	1,568	8	53.2	.....	85	4†	15	22	44	1.04	.....	0.54	4.0	6	....	....	....	.....	J. Moffatt.
Hansboro	Towner	.....	5	55.6	.....	89	4	22	22	43	1.67	.....	0.62	3.5	7	24	2	4	nw.	Geo. Dale.
Hillsboro	Traill	901	7	59.2	.....	90	6	22	22	42	4.25	.....	3.13	0	8	18	8	4	se.	F. E. Mayall.
Lakota	Nelson	1,579	12	55.7	+ 0.7	90	6	24	22	43	2.46	+ 1.39	2.02	0	5	11	15	4	sw.	C. R. Pettes.
Langdon	Cavalier	1,615	17	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Woolner.
Larimore	Grand Forks	1,134	18	57.6	+ 2.7	96	6	23	22	49	2.50	+ 0.85	1.32	0	6	19	8	3	nw.	J. M. Freeman.
Lisbon	Ransom	1,091	9	58.6	+ 1.0	95	1	21	22	44	2.21	+ 0.13	0.83	0	8	18	4	8	nw.	W. S. Adams.
McKinney	Renville	1,640	19	55.4	+ 0.7	92	5	25	21	52	1.37	− 0.25	0.90	0	5	6	16	8	nw.	N. P. Swenson.
McLeod	Ransom	1,075	1	58.4	.....	94	1	22	22	44	2.62	.....	1.45	0	8	12	7	11	se.	Martin Reinholt.
Manfred	Wells	1,605	10	57.8	+ 2.2	94	5	25	22	42	1.49	+ 0.06	0.58	0	7	16	6	8	nw.	P. B. Anderson.
Mayville	Traill	975	17	59.6	+ 3.1	94	6	21	22	42	2.02	− 0.54	1.55	0	5	18	5	7	nw.	W. C. Gould.
Milnor	Sargent	1,097	1	.....	.....	.....	.....	.....	.....	.....	2.34	.....	1.10	0	5	11	9	10	s.	Hj. Edman.
Minot	Ward	1,557	17	56.3	− 0.7	94	4	26	21	45	1.58	− 0.08	0.47	2.5	7	21	3	6	e.	Louise Bates
Minto	Walsh	820	20	58.4	+ 2.0	93	6	31	21†	46	3.31	+ 1.20	2.80	0	6	17	7	6	.....	S. S. Marsh.
Oriska	Barnes	1,270	8	57.5	.....	92	5	19	22†	40	2.31	.....	1.10	0	5	11	15	4	nw.	J. J. Taylor.
Park River	Walsh	998	9	58.4	.....	90	5	17	22	40	1.16	.....	1.01	0	4	19	6	5	se.	F. J. Prochaska.
Pembina	Pembina	789	39	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. W. Shumaker.
Power	Richland	1,020	21	57.2	− 1.1	95	5	23	22	43	2.34	+ 0.45	1.15	0	7	16	5	9	se.	J. A. Power.
Towner	McHenry	1,482	11	56.8	+ 2.3	92	4	25	21	44	1.42	− 0.62	0.75	0.1	7	13	13	4	se.	B. Bagley.
University	Grand Forks	830	21	58.2	+ 2.2	91	6	22	22	45	2.87	+ 0.87	1.98	0	7	17	7	6	se.	U. S. Weather Bureau.
Wahpeton	Richland	962	19	57.6	− 1.1	102[a]	1	24	22	45[a]	4.98	+ 2.90	2.15	0	8	14	9	7	se.	Fred E. Smith.
Walhalla	Pembina	966	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Ivanhoe Lee.
Westhope	Bottineau	.....	7	57.4	.....	92	4	25	21	43	0.84	.....	0.61	T.	5	13	15	2	nw.	W. A. Meddaugh.
Willow City	....do	1,471	21	55.0	+ 0.6	89	4	23	21	48	1.25	− 0.51	0.40	0	6	10	15	5	w.	M. A. Ostby.
Minnesota.																				
Albert Lea	Freeborn	1,229	22	62.6	− 0.4	100	5	27	22	37	3.65	+ 0.33	1.70	0	5	11	15	4	sw.	Edward Carey.
Alexandria	Douglas	1,391	19	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. O. Unumb.
Angus	Polk	870	11	56.8	+ 1.3	91	6	21	22	52	3.39	+ 1.12	1.54	0	7	19	4	7	n.	John Nadvornik.
Bagley	Clearwater	.....	7	54.0	.....	91	1	14	22	43	3.41	.....	1.80	0	7	9	18	3	se.	Jens Nelson.
Baudette	Beltrami	1,084	3	56.1	.....	92	6	24	22	38	2.61	.....	1.44	0	9	18	10	2	nw.	J. A. Gjelhaug.
Beardsley	Bigstone	1,090	17	61.8	+ 2.5	101	1	23	22	43	2.44	+ 0.44	1.20	0	5	8	12	10	se.	G. L. Fitzgerald.
Bemidji	Beltrami	1,400	9	.....	.....	.....	.....	.....	.....	.....	3.83	.....	1.04	0	11	....	....	....	.....	C. W. Warfield.
Bird Island	Renville	1,039	23	61.8	+ 1.1	97	1†	25	22	38	3.68	+ 0.76	1.08	0	8	15	5	10	se.	Dr. F. L. Puffer.
Brainerd	Crow Wing	1,215	7	58.2	.....	95	1	22	22	38	3.12	.....	1.29	0	6	17	6	7	e.	Theodore Miller.
Caledonia	Houston	1,179	20	60.2	− 0.4	92	1	33	23	31	3.06	− 0.98	1.24	0	9	15	2	13	se.	W. D. Belden.
Campbell	Wilkin	975	7	56.6	.....	98	1	22	22†	45	2.21	.....	1.27	0	7	15	3	12	se.	J. T. Neisess.
Cass Lake	Cass	1,300	6	.....	.....	.....	.....	.....	.....	.....	2.94	.....	0.98	0	8	....	....	....	.....	C. W. Burns.
Collegeville	Stearns	1,242	20	58.2	− 2.2	93	1	25	22	34	5.38	+ 2.87	3.42	0	9	17	4	9	s.	F. Tembreull.
Crookston	Polk	863	24	57.4	+ 1.0	89	6	20	21	37	2.86	+ 0.67	1.52	0	5	17	6	7	s.	A. G. Andersen.
Detroit	Becker	1,364	17	55.4	− 0.9	93	1	20	22	41	5.88	+ 3.09	3.30	0	8	23	1	6	se.	G. W. Peoples.
Fairmont (near)	Martin	1,240	26	61.1	+ 0.3	97	5	23	22	32	4.97	+ 1.89	2.04	0	9	17	7	6	s.	W. F. Wherland.
Faribault	Rice	1,003	15	60.9	+ 0.1	95	1†	26	22	34	4.11	+ 0.45	1.11	0	10	17	6	7	se.	Dr. A. B. Moulton'
Farmington	Dakota	902	25	61.3	+ 0.9	95	5	26	22	35	6.29	+ 2.89	3.50	0	9	12	2	16	se.	E. D. Akin.
Fergus Falls	Ottertail	1,210	21	59.0	+ 0.2	96	1	28	22	32	4.30	+ 1.93	3.28	0	11	13	9	8	se.	C. E. Kissinger.
Fort Ripley	Crow Wing	1,136	5	56.4	.....	97	1	16	22	44	2.54	+ 0.24	1.90	0	5	15	0	15	s.	J. J. Tucker.
Fosston	Polk	1,289	3	54.7	.....	90	1	21	22	32	2.59	.....	1.89	0	9	18	8	4	nw.	O. N. Hem.
Glencoe	McLeod	1,000	16	61.2	+ 1.4	95	1	26	22	42	3.75	+ 0.28	1.75	0	5	17	12	1	s.	L. V. Koos.
Grand Meadow	Mower	1,338	25	62.0	+ 2.1	100	1	24	22	36	4.51	+ 1.17	1.42	0	7	13	9	8	se.	C. F. Greening.
Gull Lake Dam	Cass	1,215	2	57.8	.....	94	1	26	22	38	3.42	.....	1.78	T.	7	18	3	9	nw.	U. S. Engineer Corps.
Hallock	Kittson	815	14	57.3	+ 2.3	90	6	24	22	49	2.65	− 0.29	2.25	0	7	17	4	9	s.	D. A. Robertson.
Halstad	Norman	870	7	57.2	.....	91	6	22	22	43	3.74	.....	2.10	0	8	18	4	8	nw.	A. G. Holstrom.
Hinckley	Pine	1,050	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Newman.
International Falls	Koochiching	1,112	10	56.2	+ 1.2	93	6	28	23	37	1.86	− 0.17	0.49	T.	12	20	1	9	se.	J. T. Jaeger.
Itasca State Park	Clearwater	1,500	2	55.2	.....	92	1	17	22	42	2.05	.....	1.72	0	3	20	4	6	s.	J. A. Stillwell.
Lake Crystal	Blue Earth	990	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. P. Cobb.
Leech Lake Dam	Cass	1,301	25	56.0	+ 0.7	93	1	19	22	38	3.17	+ 0.30	1.36	0	10	16	7	7	nw.	U. S. Engineer Corps.
Little Falls	Morrison	1,115	4	57.4	.....	96	7	23	21	39	2.93	.....	1.00	0	8	15	4	11	e.	Wm. Batters.
Littlefork	Koochiching	.....	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	O. C. Olson.
Long Prairie	Todd	1,299	21	58.0	− 0.5	95	1	16	22	39	2.25	− 0.35	1.48	0	5	14	7	9	s.	A. L. Sheets.
Lynd	Lyon	1,175	20	60.0	− 0.1	96	6	19	22	40	1.85	− 0.65	0.52	0	8	20	4	6	sw.	J. W. Rouse.
Mankato	Blue Earth	758	15	.....	.....	.....	.....	.....	.....	.....	3.27	+ 0.37	1.03	0	11	19	1	9	sw.	C. G. Staley.
Milaca	Mille Lacs	1,072	14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. H. Foss.
Milan	Chippewa	955	19	60.1	+ 0.4	97	6	20	22	37	2.93	+ 0.80	1.40	0	7	11	13	6	nw.	O. K. Opjorden.
Minneapolis	Hennepin	918	22	61.4	− 0.7	97	5	31	22	30	4.12	+ 0.46	2.52	0	10	11	4	15	s.	U. S. Weather Bureau.
Montevideo	Chippewa	900	23	61.4	+ 0.3	99	1	26	23	40	2.67	+ 0.52	1.49	0	7	15	8	7	se.	L. G. Moyer.
Moorhead	Clay	935	32	58.8	+ 2.2	96	1	24	22	39	2.27	− 0.03	1.34	0	8	18	8	4	s.	U. S. Weather Bureau.
Mora	Kanabec	1,001	8	57.2	.....	94	1	22	22	48	3.53	.....	0.84	0	11	16	5	9	e.	Hans Peterson.
Morris	Stevens	1,170	28	58.8	− 0.2	94	1	25	22	32	1.43	− 0.82	0.55	0	5	17	5	8	s.	D. T. Wheaton.
New London	Kandiyohi	1,215	19	61.6	+ 1.3	95	1	28	22	28	2.82	+ 0.52	1.10	0	7	10	14	6	ne.	Harold Swenson.
New Richland	Waseca	1,180	19	61.4	− 0.5	97	5	26	22	36	3.91	+ 0.94	0.91	0	6	16	9	5	s.	N. O. Tyrholm.
New Ulm	Brown	791	33	62.4	+ 0.6	99	1†	26	22	38	3.20	+ 0.12	0.82	0	10	6	4	20	s.	A. L. Henle.
Osakis	Douglas	1,343	5	59.1	.....	94	1†	27	22	33	2.93	.....	1.26	0	7	17	3	10	se.	J. B. Johnson.
Park Rapids	Hubbard	1,426	23	55.8	+ 0.2	96	1	21	22	43	3.72	+ 1.40	2.00	0	9	11	7	12	s.	Dr. P. A. Walling.
Pierz	Morrison	.....	.....	57.4	.....	93	1	21	22	34	4.11	.....	2.75	0	7	19	1	10	e.	E. H. Kerkhoff.
Pine River Dam	Crow Wing	1,251	26	57.7	+ 0.7	96	1	20	22	43	6.35	+ 3.61	2.60	T.	6	15	4	11	e.	U. S. Engineer Corps.
Pokegama Falls	Itasca	1,280	26	54.4	+ 0.3	90	1	18	22	40	3.66	+ 0.61	1.49	0	7	17	2	11	s.	Do.
Redlake	Beltrami	1,152	5	56.7	.....	91	1	22	22	36	3.17	.....	1.32	0	5	8	18	4	s.	A. C. Goddard.
Red Lake Falls	Red Lake	1,001	.....	.....	.....	.....	.....	15	22	.....	.....	.....	.....	0	....	27	1	2	sw.	E. G. Buse.
Red Wing	Goodhue	680	17	.....	.....	.....	.....	.....	.....	.....	4.38	− 0.02	1.48	0	10	11	5	14	se.	Louis Back.
Reeds Landing	Wabasha	681	17	.....	.....	.....	.....	.....	.....	.....	4.94	+ 1.02	1.50	0	8	15	0	15	se.	John Deschneau.

TABLE 7.—*Climatological data for September, 1913. District No. 5*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, 0.01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Minnesota—Continued.																				
Rochester	Olmstead	991	8	61.0	.....	100	5	30	22	42	4.29	.....	1.44	0	6	12	4	14	se.	Mary P. Leslie.
Roseau	Roseau	1,040	3	54.1	.....	91	6	12	22	44	1.75	.....	1.41	0	6	23	5	2	nw.	M. J. Hegland.
St. Charles	Winona	850	22	62.0	+ 1.0	98	1	31	22	34	4.46	+ 0.89	1.05	0	7	16	4	10	nw.	S. W. Gleason.
St. Cloud	Sherburne	1,020	36	59.8	+ 0.5	92	1†	26	22	34	4.12	+ 0.87	1.76	0	10	17	4	9	se.	State Reformatory.
St. Paul	Ramsey	940	42	60.8	+ 0.5	96	1	32	22	30	3.34	− 0.08	1.64	0	11	11	8	11	se.	U. S. Weather Bureau.
St. Peter	Nicollet	825	18	62.2	+ 0.2	98	1†	24	22	49	3.60	− 0.03	1.65	0	7	20	5	5	nw.	State Hospital.
Sandy Lake Dam	Aitkin	1,234	20	55.6	− 0.9	91	1	23	22	36	4.12	+ 1.45	1.40	0	7	10	13	7	se.	U. S. Engineer Corps.
State Sanatorium	Cass	1,336	5	56.4	.....	93	1	25	24	37	2.51	.....	1.00	0	6	13	8	9	n.	Dr. G. W. Beach.
Stillwater	Washington	694	7	.....	.....	.....	.....	.....	.....	.....	3.10	.....	1.30	0	8	15	0	15	se.	Oscar Ostrom.
Taylors Falls	Chicago	759	6	61.4	.....	98	1	32	22	35	3.90	.....	1.45	0	7	15	5	10	nw.	Minneapolis Gen. Elec. Co.
Thief River Falls	Pennington	1,137	2	56.0	.....	94	6	20	22	41	2.65	.....	1.65	0	3	20	3	7	n.	E. W. Lown.
Tracy	Lyon	.....	.....	63.6	.....	102	5	22	22	41	2.55	.....	1.08	0	6	15	13	2	nw.	A. H. Rowland.
Warren	Marshall	859	1	59.1	.....	100	6	23	22	46	3.30	.....	2.65	0	2	12	15	3	.....	P. H. Holm.
Warroad	Roseau	1,069	3	55.5	.....	86	6	20	21	45	1.26	.....	0.90	0	5	22	4	4	w.	G. A. Sawyer.
Windom	Cottonwood	1,336	5	62.7	.....	99	5	18	22	40	2.11	.....	0.80	0	6	16	8	6	se.	W. A. Peterson
Winnebago	Faribault	1,100	15	62.6	+ 0.8	99	5	26	22	36	3.23	+ 0.09	0.80	0	8	9	12	9	se.	H. H. Haight.
Winnibigoshish	Itasca	1,300	25	56.9	+ 0.6	92	1	22	22†	39	2.86	− 0.30	1.20	0	7	17	3	10	s.	U. S. Engineer Corps.
Winona	Winona	700	17	64.2	+ 2.0	101	1	33	23	39	2.88	− 0.79	0.70	0	11	18	3	9	e.	P. C. Myers.
Worthington	Nobles	1,593	18	59.2	− 1.3	92	4†	22	22	32	2.84	− 0.44	0.95	0	10	17	2	11	s.	M. P. Mann.
Zumbrota	Goodhue	917	17	61.3	+ 0.8	98	1	25	22	37	4.93	.....	2.03	0	7	15	9	6	se.	W. C. Rowell.
South Dakota.																				
Milbank	Grant	1,148	22	59.0	− 1.4	100	1†	19	22	46	1.92	+ 0.06	0.64	0	8	15	7	8	nw.	Miss Mary Patridge.
Sisseton	Roberts	1,202	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	George Gray.
Wisconsin.																				
Antigo	Langlade	1,489	19	59.5[e]	+ 1.7	92[e]	1	32[e]	21	42[e]	3.24	.....	1.18	0	6	19[e]	1[e]	7[e]	sw.	Elton C. Larzelere.
Barron	Barron	1,115	22	56.8	− 1.5	92	1	29	23	35	2.95	− 0.33	1.05	0	4	17	5	8	sw.	Wm. A. Kent.
Beloit	Rock	750	47	63.1	− 0.4	98	2	32	23	35	3.72	+ 0.26	1.12	0	7	16	6	8	s.	Smith Observatory.
Big St. Germain Dam	Vilas	1,590	3	55.8	.....	90	1	25	23	46	4.78	.....	1.68	0	11	17	6	7	nw.	Fred Hessen.
Brodhead	Green	812	15	63.8	+ 0.3	100	2	31	23	38	3.71	− 0.03	1.20	0	7	18	4	8	sw.	Hector D. Kirkpatrick.
Burnett	Dodge	880	9	59.9	.....	93	2	26	23	33	4.31	.....	1.24	T.	8	11	9	10	se.	George W. Smith.
Cottage Grove	Dane	888	2	.....	.....	.....	.....	.....	.....	.....	4.23	.....	1.46	0.1	7	15	9	6	sw.	John E. Mellish.
Darlington	Lafayette	867	7	62.0	.....	98	2	28	22	40	4.81	.....	1.90	0	6	15	7	8	se.	Sever P. Nelson.
Deerskin Dam	Forest	1,685	3	55.6	.....	91	6	28	23	45	3.14	.....	0.95	T.	9	18	6	6	sw.	Wm. E. O'Neal.
Delavan	Walworth	920	22	62.0	− 0.7	99	2	30	23	39	2.34	− 1.32	1.06	0	6	15	6	9	se.	Elwood S. Austin.
Dodgeville	Iowa	1,220	13	61.0	− 2.3	96	1†	29	22	44	2.40	− 0.27	0.80	0	5	17	0	13	sw.	Chas. H. Berryman.
Downing	Dunn	983	11	56.9[b]	+ 1.2	92[b]	5	24[b]	23	40[b]	1.20	− 2.57	.....	0	...	6[b]	3[b]	19[b]	se.	Eugene F. Stoddard.
Eau Claire	Eau Claire	800	22	60.4	− 0.6	95	1	29	23	37	4.43	+ 0.51	1.43	0	8	11	10	9	se.	Robert D. Whitford.
Glen Flora	Rusk	1,475	1	56.8	.....	92	1	27	23	41	2.23	.....	1.12	T.	6	20	2	8	se.	G. A. Durgin.
Grand Rapids	Wood	980	14	60.6	0.0	100	2	26	23	40	3.85	+ 0.60	1.05	0	14	11	9	10	se.	Geo. T. Nixon.
Grantsburg	Burnett	1,095	22	58.1	− 0.7	97	1	27	23	47	2.14	− 1.88	0.90	0	6	22	0	8	ne.	Chester Ahlstrom.
Hancock	Waushara	1,091	21	62.2[e]	+ 1.2	97[e]	2	28[e]	23	36[e]	4.68	+ 1.42	1.30	0	11	12	10	8	sw.	Frederick B. Hamilton.
Hatfield	Jackson	973	19	59.4	− 1.1	97	1	26	23	43	4.58	+ 0.92	2.18	0	6	15	5	10	se.	Wis. Ry., Light & Power Co.
Hayward	Sawyer	1,107	22	57.4	0.0	95	1	25	23	55	1.26	− 2.61	1.08	T.	5	18	4	8	s.	G. H. McElroy.
Hillsboro	Vernon	1,000	22	58.6	− 1.6	94	2	23	23	40	6.57	+ 3.20	1.80	0	9	13	10	7	w.	Emil V. Wernick.
Hoepenick	Langlade	1,683	22	57.4	− 1.1	90	2	28	23	40	3.40	− 0.85	1.00	2.0	8	.....	.....	.....	se.	Edward S. Koepenick.
La Crosse	La Crosse	714	41	62.2	+ 0.5	98	1	32	23	33	3.16	− 0.96	1.13	0	9	10	8	12	se.	U. S. Weather Bureau.
Lake Mills	Jefferson	897	22	60.9	− 1.4	95	2	30	23	30	3.61	+ 0.29	1.12	0	8	15	8	7	se.	S. Newton Dexter Smith.
Lancaster	Grant	1,070	22	62.4[a]	+ 0.4	99[a]	1	29[a]	22	40[a]	3.95	+ 0.54	2.35	0	3	11	9	10	.....	Edward Pollock.
Long Lake	Oneida	1,592	5	55.8	.....	92	1	25	23	49	4.32	.....	1.31	T.	11	17	7	6	se.	Louis Frank.
Madison	Dane	974	44	61.2	+ 0.1	94	2	34	22	25	4.32	+ 1.14	2.10	0	9	14	7	9	s.	U. S. Weather Bureau.
Marshfield	Wood	1,276	0	58.0	.....	91	1†	25	23	36	3.13	.....	0.99	0	7	8	7	15	nw.	Agricultural Expr. Station.
Mather	Juneau	962	9	57.8	.....	94	6	19	23	43	2.78	.....	0.96	0	9	12	5	13	e.	Frank Evans.
Mauston	....do....	882	17	59.8	− 0.8	90	2†	28	21†	31	4.98	+ 1.41	1.50	0	8	14	9	7	s.	Eugene L. Hitchcock.
Meadow Valley	....do....	974	22	60.2	+ 0.1	100	2	23	23	47	2.91	− 0.90	1.20	0	8	9	15	6	se.	Charles H. Johnson.
Medford	Taylor	1,420	24	58.4	− 1.0	93	1	29	22†	37	3.80	− 0.33	1.35	T.	9	14	10	6	s.	Wm. Zeit.
Merrill	Lincoln	1,267	7	59.1	.....	95	2	30	23	43	3.06	.....	1.07	0.6	8	10[a]	4[a]	15[a]	se.	O. F. Lueck.
Minocqua	Oneida	1,604	9	57.6	.....	90	1	27	23	45	4.12	.....	1.66	T.	11	11	12	7	se.	Benjamin W. Applebee.
Mondovi	Buffalo	738	5	60.2	.....	96	1	29	23	41	4.62	.....	1.53	0	14	12	11	7	nw.	Dr. Chas. Hebard.
Mount Horeb	Dane	1,226	9	60.8	.....	95	2	30	22†	34	3.92	.....	1.70	0	7	19	4	7	nw.	W. M. Lewis.
Muscoda	Grant	666	4	62.6	.....	100	1	33	23	43	4.29	.....	1.50	0	8	20	0	10	nw.	Wm. Hessler.
Neillsville	Clark	996	23	60.7	+ 1.2	96	1	25	23	43	2.99	− 0.89	1.50	0	4	.....	.....	.....	nw.	Wm. Heaslett.
New Richmond	St. Croix	990	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Franc A. R. Van Meter.
Osceola	Polk	806	22	59.0	− 0.8	98	1	28	22	45	4.24	+ 0.25	1.88	0	7	13	15	2	n.	Charles W. Staples.
Park Falls	Price	1,492	22	55.8	.....	93	1	27	23	43	3.90	.....	1.17	T.	11	15	2	13	ne.	Flambeau Paper Co.
Portage	Columbia	809	24	62.6	+ 1.2	96	2	30	23	39	3.31	+ 0.22	1.79	0	8	18	2	10	s.	James H. Martin.
Port Edwards	Wood	969	3	60.3[j]	.....	97[j]	2	27[j]	23	41[j]	4.01	.....	1.00	T.	9	7[j]	4[j]	9[j]	nw.	Nekoosa Edwards Paper Co.
Prairie du Chien	Crawford	628	22	63.4	− 0.2	100	1†	36	27	43	3.58	+ 0.12	1.10	0	8	15	0	15	nw.	James A. Gillis.
Prairie du Sac	Sauk	750	5	62.8	.....	97	6	31	23	35	3.82	.....	1.41	0	7	16	4	10	se.	Wis. River Power Co.
Prentice	Price	1,551	15	56.8	+ 0.3	89	1†	28	23	40	4.61	+ 0.82	1.80	T.	8	14	2	14	s.	Joseph G. Lash.
Rest Lake	Vilas	1,600	0	55.5	.....	91	1	25	23†	41	4.12	.....	2.03	T.	6	17	4	9	s.	A. F. Miller.
Rhinelander	Oneida	1,550	7	56.9	.....	91	1	26	23	46	5.17	.....	1.42	0.5	10	19	2	9	se.	Rhinelander Power Co.
Shullsburg	Lafayette	1,019	7	61.8	.....	94	1†	30	23	36	4.63	.....	1.57	0	7	17	3	10	s.	Harrison B. Chamberlin.
Solon Springs	Douglas	1,083	7	55.0	.....	95	1	20	23	42	2.67	.....	0.60	1.5	8	17	1	12	nw.	John M. Sayles.
Spooner	Washburn	1,104	19	57.4	− 1.9	92	1	27	23	32	3.46	+ 0.34	1.13	0	10	16	4	10	.....	Horace A. Bresee.
Stanley	Chippewa	1,082	9	57.5	.....	93	1	29	22	37	1.61	.....	0.68	0	4	14	10	6	se.	W. Humphrey Scott.
Stevens Point	Portage	1,113	20	61.3	+ 1.1	97	1†	28	23	39	4.89	+ 1.38	1.20	T.	8	13	4	13	sw.	Postmaster.
Sugar Camp Dam	Oneida	1,582	3	.....	.....	.....	.....	.....	.....	.....	4.22	.....	0.97	T.	8	22	3	5	sw.	C. W. Cheever.
Tomahawk	....do....	1,451	0	58.6	.....	93	1	29	23	45	2.43	.....	0.90	T.	5	20[a]	1[a]	8[a]	s.	Victor Extrom.
Trout Lake	Vilas	1,400	1	56.0[a]	.....	85[a]	1	26[a]	23	31[a]	3.06	.....	1.45	T.	7	9[c]	11[c]	7[c]	nw.	F. B. Moody.
Twin Lakes Dam	....do....	1,625	3	.....	.....	.....	.....	.....	.....	.....	2.95	.....	1.94	0	3	12	7	11	sw.	Albert D. Hansen.
Valley Junction	Monroe	930	21	60.4	+ 0.5	99	2	25	23	42	2.80	− 1.23	0.80	0	5	19	2	9	w.	J. J. Donahue.
Viroqua	Vernon	1,412	23	60.4	− 0.8	95	1†	28	23	35	2.62	− 1.30	0.90	0	9	10	12	8	se.	Henry E. Rogers.
Vudesare	Vilas	1,700	5	53.8	.....	90	1	23	22†	41	2.20	.....	0.90	2.0	5	22	4	4	sw.	Louis L. Thomas.
Watertown	Jefferson	824	22	59.6	− 1.7	90	2	34	22†	35	1.55	− 1.80	0.58	0	8	16	7	7	se.	Charles J. Salick.
Waukesha	Waukesha	864	22	60.6	− 1.7	95	2	27	23	33	2.49	− 0.70	0.95	0	8	11	13	6	se.	Carroll College.
Wausau	Marathon	1,212	18	57.2	− 1.9	92	1†	31	22†	35	4.15	+ 0.20	1.44	0	8	13	5	12	se.	A. A. Babcock, jr.
Weyerhaeuser	Rusk	1,297	11	55.4	− 2.0	92	1	26	23	39	3.30	.....	1.57	T.	11	14	5	11	ne.	Miss Etta Stiles.
Whitehall	Trempealeau	675	22	60.2	− 1.1	94	1	27	23	41	4.10	+ 0.36	1.70	0	8	13	7	10	s.	Hans J. Haugh.

TABLE 1.—*Climatological data for September, 1913. District No. 5*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, 0.01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Iowa.																				
Albia	Monroe	959	15	66.4	+ 1.6	103	3†	27	22	41	2.46	− 0.24	1.30	0	10	11	10	9	se.	J. I. Chenoweth.
Algona	Kossuth	1,213	39	63.2	+ 1.3	97	1	25	22	34	3.54	+ 0.40	1.20	0	6	20	4	6	se.	Dr. F. T. Seeley.
Alta	Buena Vista	1,513	22	63.3	+ 0.4	101	5	26	22	45	3.03	− 0.15	0.88	0	10	14	10	6	s.	David E. Hadden.
Amana	Iowa	721	37	64.2	+ 1.7	99	1	28	22	33	3.11	− 0.14	0.98	0	9	15	10	5	se.	C. Schadt.
Ames	Story	926	37	65.3	+ 1.8	102	4	25	22	40	1.82	− 1.57	0.92	0	5	10	10	10	se.	Iowa State College.
Baxter	Jasper	998	13	64.0	+ 1.0	106	4	28	22	39	3.69	+ 0.27	1.38	0	10	17	8	5	se.	W. R. Vandike.
Belle Plaine	Benton	886	23	64.3	+ 0.7	100	1†	25	22	37	3.27	+ 0.31	0.92	0	8	13	8	9	s.	O. C. Burrows.
Belmond	Wright	1,184	3	63.6	.....	100	5	24	22	35	3.83	.....	1.67	0	8	9	15	6	se.	Geo. P. Hardwick.
Bloomfield	Davis	881	6	66.8	.....	104	3	26	23	53	2.69	.....	0.89	0	8	.....	.....	.....	se.	Albert Power.
Bonaparte	Van Buren	.....	22	66.6	− 0.8	102	1	29	22	36	4.03	− 0.01	1.37	0	7	.....	.....	.....	.....	B. R. Vale.
Boone	Boone	1,134	8	63.6	.....	103	5	25	22	39	3.15	.....	.....	0	8	.....	.....	.....	.....	C. F. Henning.
Britt	Hancock	1,236	16	62.5	+ 0.8	98	5	24	22	38	4.09	+ 0.35	1.20	0	10	14	7	9	s.	L. M. Goodman.
Burlington	Des Moines	544	17	66.6	+ 0.4	103	1	32	22	47	1.54	− 1.58	0.65	0	8	24	0	6	s.	Max. E. Poppe, jr.
Carroll	Carroll	1,265	23	62.4	− 0.6	98	5	26	22†	51	4.50	+ 1.61	1.00	0	10	17	6	7	nw.	Mrs. Jos. J. Wolfe.
Cedar Rapids	Linn	733	31	64.0	0.0	102	1	33	22	40	4.48	+ 1.66	1.68	0	8	16	1	13	e.	R. S. Toogood.
Charles City	Floyd	1,015	22	62.1	+ 0.4	98	5	27	22	34	3.48	+ 0.68	0.93	0	11	7	9	14	se.	U. S. Weather Bureau.
Clinton	Clinton	593	46	65.6	+ 2.3	103	1†	32	22	38	3.09	− 0.22	1.47	0	7	15	8	7	se.	A. E. Reid.
Columbus Junction	Louisa	595	12	66.7	+ 1.2	100	1	30	22	34	2.56	− 0.59	0.63	0	6	21	3	6	ne.	J. B. Johnston.
Davenport	Scott	580	42	66.0	+ 1.3	99	1	38	22	32	1.80	+ 1.34	0.76	0	9	12	7	11	e.	U. S. Weather Bureau.
Decorah	Winneshiek	875	20	65.0	+ 2.9	100	1	35	22	40	3.50	− 0.23	1.30	0	7	.....	.....	.....	.....	F. H. Baker.
Delaware	Delaware	1,083	22	63.4	+ 1.6	100	1	30	22	34	4.67	+ 1.40	1.78	0	7	12	14	4	se.	Nettie E. Ball.
Des Moines	Polk	861	35	65.9	+ 0.9	99	4	32	22	31	2.65	− 0.42	1.10	0	11	11	11	8	se.	U. S. Weather Bureau.
Dubuque	Dubuque	639	40	63.6	0.0	97	1	36	22	32	3.59	0.00	1.01	0	11	13	5	12	s.	Do.
Earlham	Madison	.....	11	65.1	+ 3.0	100	4†	21	22	44	2.47	− 1.32	0.81	0	9	17	3	10	se.	George Phillips.
Elkader	Clayton	727	34	61.7	− 0.8	99	1	30	22	37	4.42	+ 0.58	1.30	0	6	16	10	4	se.	Chas. Reinecke.
Elma	Howard	1,182	3	60.6	.....	96	5	24	22	52	3.00	.....	0.90	0	10	10	15	5	se.	H. A. Moore.
Estherville	Emmet	1,298	18	60.2	− 0.5	96	1†	23	22	43	3.38	+ 0.15	0.97	0	9	14	11	5	s.	A. O. Peterson.
Fairfield	Jefferson	780	29	65.6	+ 1.6	99	1	32	22	32	2.17	− 1.30	0.59	0	9	.....	.....	.....	se.	R. M. McKenzie.
Fayette	Fayette	1,003	23	62.9	+ 0.6	100	1	30	22	38	4.74	+ 1.51	1.25	0	7	18	6	6	sw.	R. Z. Latimer.
Forest City	Winnebago	1,226	19	61.4	− 0.6	99	5	28	22	39	4.52	+ 0.90	1.95	0	7	14	8	8	s.	J. A. Peters.
Fort Dodge	Webster	1,126	13	63.6	+ 1.0	100	5	26	22	46	5.78	+ 1.21	1.50	0	9	12	5	13	s.	J. F. Monk.
Fort Madison	Lee	516	64	.....	.....	.....	.....	.....	.....	.....	1.78	− 2.03	0.85	0	5	11	7	12	sw.	Miss L. A. McCready.
Gilman	Marshall	1,052	14	.....	.....	.....	.....	.....	.....	.....	3.28	+ 0.38	1.42	0	7	.....	.....	.....	.....	J. L. Wylie.
Grand Meadow	Clayton	1,180	22	62.1	+ 0.2	95	1	32	22	29	4.59	+ 0.91	1.49	0	8	8	13	9	sw.	F. L. Williams.
Grinnell	Poweshiek	1,023	21	65.8	+ 2.0	100	1†	30	22	34	2.83	+ 0.48	0.77	0	6	15	7	8	s.	D. W. Brainard.
Grundy Center	Grundy	976	22	64.8	+ 1.7	100	1†	27	22	33	3.77	+ 0.52	1.01	0	9	15	11	4	se.	J. B. Calderwood.
Guthrie Center	Guthrie	1,077	18	64.6	+ 0.7	99	1	24	22	37	3.19	+ 0.10	0.94	0	10	17	4	9	sw.	D. G. Beardsley.
Hampton	Franklin	1,155	23	64.7	+ 1.8	102	5	28	22	35	5.21	+ 1.65	1.70	0	8	9	15	6	se.	E. C. Grenelle.
Humboldt	Humboldt	1,095	25	62.8	+ 0.3	100	5	21	22	36	4.04	+ 0.87	1.27	0	7	13	14	3	n.	J. P. Peterson.
Independence	Buchanan	921	49	63.6	+ 1.9	100	1	29	22	35	4.58	+ 0.63	1.25	0	11	13	9	8	se.	R. E. Dudley.
Indianola	Warren	969	22	65.9	+ 0.4	99	4†	30	22	33	1.89	− 1.21	0.66	0	11	11	8	11	se.	Prof. J. L. Tilton.
Iowa City	Johnson	683	53	63.6	0.0	100	1	32	22	43	3.19	− 0.56	1.18	0	11	17	6	7	se.	Prof. A. G. Smith.
Iowa Falls	Hardin	1,170	20	61.8	+ 0.2	96	5	26	22	40	6.01	+ 3.04	1.85	0	11	14	8	8	sw.	J. B. Parmelee.
Jefferson	Greene	1,052	14	64.0	.....	102	5	23	22	38	5.02	+ 1.55	2.11	0	9	14	5	11	se.	Ora M. Hall.
Keokuk	Lee	614	42	67.8	+ 1.4	101	3	33	22	33	1.42	− 2.55	0.80	0	10	15	7	8	e.	U. S. Weather Bureau.
Keosauqua	Van Buren	644	21	65.8	− 1.1	102	1†	26	22	46	3.83	− 0.57	1.17	0	9	10	11	9	.....	J. H. Landes.
Knoxville	Marion	920	18	66.0	− 0.2	98	1†	30	22	33	1.48	− 2.04	0.66	0	5	14	2	14	nw.	Casey and Belville.
Lacona	Warren	.....	14	.....	.....	.....	.....	.....	.....	.....	1.15	− 2.68	0.32	0	8	8	18	4	.....	J. B. Alter.
Lansing	Allamakee	632	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Chas. R. Serene.
Le Claire	Scott	576	13	.....	.....	.....	.....	.....	.....	.....	2.10	− 1.68	1.32	0	10	.....	.....	.....	.....	Miss M. T. Disney.
Marshalltown	Marshall	947	21	64.8	+ 0.7	102	1†	28	22	42	3.44	+ 0.49	1.45	0	12	14	4	12	se.	Jacob Eige.
Mason City	Cerro Gordo	1,132	16	61.6	− 1.4	100	5	25	22	37	3.69	+ 1.33	1.23	0	7	13	14	3	e.	Dr. Roy Desart.
Monroe	Jasper	922	1	65.6	.....	101	3	29	22	34	3.22	.....	0.97	0	9	14	7	9	s.	J. A. Dibel.
Mount Pleasant	Henry	729	32	65.8	+ 0.8	98	1	31	22	32	2.02	− 1.66	0.41	0	7	20	3	7	se.	J. W. Edwards.
Muscatine	Muscatine	554	53	.....	.....	.....	.....	.....	.....	.....	2.63	− 1.09	0.70	0	10	.....	.....	.....	.....	William Molis.
New Hampton	Chickasaw	1,169	16	.....	.....	.....	.....	27	22	.....	3.45	− 0.06	0.68	0	8	13	5	12	s.	A. F. Kemman.
Nora Springs	Floyd	1,064	.....	64.9	.....	100	5	25	22	40	5.60	.....	1.85	0	11	17	7	6	s.	Arthur Betts.
Northwood	Worth	1,122	17	61.4	+ 0.6	95	1†	26	22	42	3.32	− 0.03	1.35	0	8	16	7	7	sw.	Chas. H. Dwelle.
Olin	Jones	760	15	64.4	+ 1.3	99	2	33	21†	40	3.40	+ 0.17	1.30	0	6	14	14	2	nw.	Dr. F. W. Port.
Osage	Mitchell	1,184	26	63.0	+ 3.0	101	5	27	22	35	4.05	+ 0.49	1.43	0	5	13	11	6	s.	Lester Coonradt.
Oskaloosa	Mahaska	843	37	65.4	+ 0.9	99	1†	28	22	34	2.67	− 0.36	0.85	0	8	16	3	11	se.	Joseph Boyd.
Ottumwa	Wapello	649	18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Chester Potter.
Pella	Marion	877	11	65.6	− 0.8	101	1†	26	22	42	2.72	+ 0.22	0.71	0	8	23	3	4	nw.	J. H. Ver Steeg.
Perry	Dallas	975	12	65.2	+ 0.8	103	5	24	22	40	1.70	− 1.00	0.63	0	13	14	10	6	se.	S. J. Brumfield.
Pocahontas	Pocahontas	1,248	9	62.6	.....	97	5	24	22	36	3.93	.....	0.96	0	9	18	5	7	s.	F. E. Hronek.
Rockwell City	Calhoun	.....	17	62.4	− 1.4	98	7	26	22	33	7.15	+ 3.97	1.65	0	9	.....	.....	.....	.....	O. M. Randall.
Sac City	Sac	1,278	37	62.6	+ 1.1	99	5	27	22	32	4.29	+ 1.01	1.05	0	10	.....	.....	.....	se.	E. N. Daily.
St. Charles	Madison	1,070	12	66.0	+ 0.6	103	4	29	22	38	2.81	− 0.83	0.98	0	11	13	12	5	nw.	R. D. Minard.
Sigourney	Keokuk	877	17	64.8	− 0.8	99	1	26	22	37	2.58	− 0.44	0.93	0	.....	5	24	1	se.	J. T. Parker.
Stockport	Van Buren	745	11	66.1	.....	101	1†	27	22	39	2.66	− 1.58	0.96	0	6	18	5	7	s.	C. L. Beswick.
Storm Lake	Buena Vista	1,440	24	64.0	+ 1.3	101	5	28	22	38	3.83	+ 0.74	1.00	0	11	16	9	5	s.	Geo. H. Fracker.
Tipton	Cedar	807	14	66.6	+ 0.8	98	1†	37	22	30	3.46	+ 0.47	1.20	0	10	15	9	6	se.	F. K. Gregg.
Toledo	Tama	856	19	65.0	+ 0.9	99	1	28	22	36	2.78	− 0.19	0.77	0	9	18	5	7	se.	I. F. Giger.
Washington	Washington	769	31	65.6	+ 1.0	99	1	30	22	33	2.79	+ 0.11	0.94	0	7	12	13	5	se.	Wm. A. Cook.
Waterloo	Black Hawk	862	30	62.9	+ 0.1	100	1	29	22	40	3.90	+ 0.02	0.85	0	11	17	3	10	se.	Ralph B. Slippy.
Waukee	Dallas	1,039	10	65.1	− 1.0	100	5	25	22	34	2.67	+ 0.04	0.79	0	10	17	7	6	sw.	Samuel F. Foft.
Waverly	Bremer	948	17	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Earl C. Moore.
Webster City	Hamilton	.....	8	64.2	.....	103	5	21	22	38	2.71	.....	1.24	0	7	12	10	8	se.	C. D. Carpenter.
West Bend	Palo Alto	1,197	20	62.0	+ 0.9	95	1	24	22	38	3.52	+ 0.09	1.00	0	9	13	8	9	s.	Phil Dorweiler.
Whitten	Hardin	1,036	16	63.9	+ 1.1	98	1†	25	22	32	4.06	+ 0.77	1.30	0	7	15	11	4	se.	Dr. F. P. Butler.
Winterset	Madison	1,129	22	65.6	0.0	100	5	27	22	35	2.69	− 0.67	1.03	0	9	14	3	13	se.	Dr. R. S. Cooper.
Missouri.																				
Gorin	Scotland	700	27	.....	.....	.....	.....	.....	.....	.....	1.26	− 2.96	0.57	0	8	10	10	10	se.	J. W. Pulliam.
Hannibal	Marion	534	22	68.8	+ 0.9	101	1	33	22	31	3.91	+ 0.35	1.44	0	10	16	6	8	e.	U. S. Weather Bureau.
Louisiana	Pike	500	36	67.6	− 0.2	101	1†	27	22	38	4.63	+ 1.30	1.35	0	9	14	5	11	e.	J. T. Farrel.
Macon	Macon	881	1	69.7	.....	107	4	35	22	46	3.58	.....	1.33	0	10	14	6	10	ne.	John A. Cook.
Mexico	Audrain	797	36	69.2	+ 0.5	106	1†	34	22	47	5.80	+ 1.84	1.19	0	10	14	3	13	se.	J. F. Llewellyn.
Palmyra	Marion	652	2	69.4	.....	105	2	33	22	35	6.03	.....	2.85	0	6	15	10	5	se.	W. B. Markell.
Steffenville	Lewis	576	20	71.2	+ 2.9	109	4	30	22	41	2.09	− 2.36	1.08	0	6	10	12	8	ne.	Frank Hall.
Sublett	Adair	1,000	34	68.4	+ 1.5	104	4†	29	22	38	3.45	− 0.66	2.00	0	3	6	12	12	sw.	Lewis Spriggs.
Vandalia	Audrain	776	3	69.1	.....	105	1	40	27	40	4.71	.....	1.32	0	6	14	6	10	n.	C. B. Ellis
Warrenton	Warren	865	24	69.0	+ 0.3	105	1†	35	22	42	5.12	+ 1.27	2.07	0	8	11	5	14	s.	Prof. J. H. Frick.

TABLE 1.—*Climatological data for September, 1913. District No. 5*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Sky.				Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Indiana.																				
Collegeville	Jasper		14	65.7	+ 0.6	103	2	34	27	47	1.56	− 1.46	0.88	0	4	12	9	9	w.	John Zeller.
Knox	Starke	716	8	63.5	.....	93	2†	31	23	35	2.42	.....	0.74	0	10	14	9	7	s.	W. R. R. Tatman.
Laporte	Laporte	810	17	64.0[b]	− 0.3	96[f]	2	30[f]	23	38[f]	2.23	− 0.94	0.50	0	10	14[f]	3[f]	7[b]	n.	Wm. M. Walton, jr.
Plymouth	Marshall	790	10	62.7	.....	94	3	30	23	37	1.76	.....	0.53	0	10	14	9	7	nw.	J. W. Siders.
South Bend	St. Joseph	726	20	64.4	− 1.2	99	2	35	23	32	2.82	− 0.21	0.52	0	13	12	11	7	se.	Henry H. Swaim.
Illinois.																				
Aledo	Mercer	738	13	66.4	+ 0.9	100	1	35	22	32	2.19	− 1.82	0.80	0	8	13	8	9	se.	William B. Frew.
Alexander	Morgan	670	20	68.7	+ 0.7	103	1†	32	22	37	3.04	− 0.74	0.92	0	11	12	11	7	e.	George H. Hall.
Antioch	Lake.	861	12	62.6	− 0.8	98	1†	29	23	37	3.10	− 1.00	1.30	0	4	14	7	9	sw.	J. C. James.
Astoria	Fulton	650	14	66.4	+ 0.9	102	1	31	22	36	2.12	− 2.14	1.12	T.	8	18	3	9	nw.	Edward V. Bohl.
Aurora	Kane	678	34	62.6	− 1.1	93	1†	31	22	40	1.68	− 1.91	0.53	0	9	22	0	8	e.	Miss Alice M. Holder.
Beardstown	Cass	448	..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mrs. L. M. Rice.
Bement	Piatt	685	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. W. B. Stewart.
Bloomington	McLean	840	22	67.0	− 0.9	102	3	36	22†	39	2.27	− 1.42	1.12	0	6	16	6	8	ne.	Prof. H. N. Pearce.
Cairo	Alexander	359	41	70.9	+ 0.7	98	3	43	22	27	2.22	− 0.25	0.78	0	8	10	7	13	s.	U. S. Weather Bureau.
Camp Point	Adams	732	0	.....	.....	.....	.....	.....	.....	.....	1.64	.....	0.82	.....	7	12	10	8	se.	Capt. D. M. Morris.
Carbondale	Jackson	412	8	70.8	.....	104	3	39	22	41	2.74	.....	0.74	0	13	14	7	9	se.	State Normal University.
Carlinville	Macoupin	663	23	69.0	− 0.4	105	1†	32[a]	22	38[a]	3.80	+ 0.25	0.80	0	10	17	5	8	ne.	Dr. J. D. Conley.
Carlyle	Clinton	470	28	.....	.....	.....	.....	.....	.....	.....	4.57	+ 0.97	1.50	0	11	.....	.....	.....	.....	Hervey O. Jones.
Chester	Randolph	380	21	.....	.....	.....	.....	.....	.....	.....	5.41	+ 1.50	2.72	0	14	.....	.....	.....	.....	Charles S. Gollon.
Clinton	Dewitt	727	3	67.0	.....	101	3	37	22	38	3.62	.....	1.10	0	9	15	8	7	se.	J. Frank Ziegler.
Cobden	Union	656	30	71.5	+ 0.3	104	2†	45	21	43	4.81	+ 1.33	3.45	0	7	12	6	12	sw.	John Buck Co.
Dakota	Stephenson	929	8	63.2	.....	97	2	29	22	39	2.80	.....	1.12	0	7	11	12	7	se.	Elmer G. Smith.
Decatur	Macon	685	22	67.2	− 0.8	103	3	33	22	41	3.74	+ 0.12	1.20	0	9	18	7	5	ne.	Prof. J. H. Coonradt.
Dixon	Lee	725	23	63.4	− 1.2	98	2	34	22	36	2.57	− 0.92	1.10	0	8	20	4	6	.....	H. U. Bardwell.
Duquoin	Perry	459	25	71.0	− 0.3	104	3†	36	22	36	4.99	+ 2.03	1.78	0	8	15	7	8	sw.	G. H. Knetzger.
Dwight	Livingston	600	20	65.6	+ 0.7	101	2	34	22†	42	0.88	− 2.03	0.41	0	7	13	6	11	se.	Edward O. Welch.
East St. Louis	St. Clair	481	2	.....	.....	.....	.....	.....	.....	.....	4.96	.....	2.15	0	10	.....	.....	.....	.....	W. Mc. K. Brown.
Edwardsville	Madison	554	14	.....	.....	.....	.....	.....	.....	.....	4.56	+ 1.95	1.17	0	10	.....	.....	.....	.....	W. H. Morgan.
Elgin	Kane	716	6	64.3	.....	97	2	31	23	39	2.13	.....	0.81	0	9	12	10	8	ne.	Elgin Observatory.
Ewing	Franklin	449	1	.....	.....	.....	.....	.....	.....	.....	3.88	.....	1.00	0	8	.....	.....	.....	.....	U. of I. Exp. Station.
Fairview	Fulton	733	2	.....	.....	.....	.....	.....	.....	.....	1.43	.....	0.71	0	5	.....	.....	.....	.....	Abram Wilson.
Galva	Henry	842	21	64.9	− 0.6	100	1†	34	22	40	1.85	− 1.72	0.72	0	9	17	3	10	nw.	Prof. F. U. White.
Grafton	Jersey	422	20	.....	.....	.....	.....	.....	.....	.....	5.04	+ 1.46	1.90	0	10	.....	.....	.....	.....	R. C. Goodrich.
Greenville	Bond	635	35	70.0	+ 0.9	106	3	34	22	41	3.52	− 0.10	1.03	0	13	17	5	8	s.	H. W. Reidemann.
Griggsville	Pike	650	28	69.6	+ 1.5	103	1†	34	22	36	3.10	− 1.13	1.10	0	10	10	16	4	se.	George F. Kneeland.
Havana	Mason	475	21	68.4	− 0.7	102	3	33	22	39	1.59	− 2.61	0.90	0	7	18	5	7	s.	L. L. Eutenener.
Henry	Marshall	500	25	67.0[b]	+ 1.4	100[b]	1†	36[a]	27	38[b]	2.21	− 1.13	1.04	0	7	16	6	8	se.	Dr. F. A. Powell.
Hillsboro	Montgomery	675	19	69.3	− 0.1	104	1†	34	22	44	7.22	+ 3.43	3.50	0	6	.....	.....	.....	s.	Mrs. Effie A. Woodward.
Joliet	Will	609	22	63.9	− 0.8	100	2	31	23†	43	1.37	− 2.41	0.51	0	8	19	2	9	ne.	F. M. Muhlig.
Kishwaukee	Winnebago	730	25	63.5	− 0.1	98[a]	3	31	23	41[a]	3.58	+ 0.43	1.15	0	9	16	7	7	sw.	George Stevens.
La Grange	Cook	657	21	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. F. E. Sanford.
La Harpe	Hancock	698	34	67.4	+ 1.1	103	1	30	22	36	1.96	− 2.20	1.23	0	8	20	5	5	se.	George E. Campbell.
Lanark	Carroll	883	24	62.8	+ 0.1	97	2	30[a]	22	40[a]	2.86	+ 0.56	1.16	0	8	20	3	7	se.	M. N. Wertz.
La Salle	La Salle	536	8	64.9	+ 1.0	99	2	36	22	38	1.92	− 1.28	0.97	0	8	11	8	11	e.	U. S. Weather Bureau.
Lincoln	Logan	575	25	66.8	− 0.5	101	3	32	22	40	2.58	− 1.17	0.66	T.	8	15	5	10	ne.	Prof. C. S. Oglevee.
Macomb	McDonough	700	9	.....	.....	.....	.....	.....	.....	.....	1.89	.....	1.17	0	4	.....	.....	.....	.....	State Normal University.
Manteno	Kankakee	711	2	.....	.....	.....	.....	.....	.....	.....	1.35	.....	0.81	0	5	19	4	7	sw.	C. B. Schmeltzer.
Martinton	Iroquois	633	26	64.9	− 0.1	101[a]	2	32	23	44[a]	2.22	− 1.30	0.78	0	6	16	5	9	se.	Joseph H. Peltier.
Mascoutah	St. Clair	425	23	69.6	− 0.6	102	1†	34	22	40	2.97	− 0.73	1.25	0	10	17	5	8	s.	Dr. Robert F. Lischer.
Minonk	Woodford	745	20	66.8	+ 0.4	104	3	36	23†	42	1.32	− 2.51	0.58	0	7	16	5	9	ne.	John C. Danforth.
Monmouth	Warren	784	21	66.9	+ 0.7	103	3	31	22	39	1.89	− 2.81	1.15	0	4	16	1	13	s.	Dr. J. C. Hutchison.
Morris	Grundy	518	2	64.6	.....	100	2	32	22†	41	0.81	.....	0.33	0	7	17	5	8	s.	E. G. Cryder.
Morrison	Whiteside	685	19	64.8	+ 0.3	102	1†	31	22	42	2.59	− 0.95	1.21	0	9	18	3	9	e.	S. A. Maxwell.
Morrisonville	Christian	626	14	67.6	− 0.5	101	1†	34	22	37	3.66	+ 0.34	0.76	0	8	18	7	5	s.	J. D. Lowis.
Mount Vernon	Jefferson	511	19	70.4[b]	0.0	103[a]	2†	37[c]	22	39[d]	4.20	+ 0.47	1.31	0	10	11	7	12	e.	Theodore P. Stelle.
Nashville	Washington	503	13	.....	.....	.....	.....	.....	.....	.....	2.87	− 0.26	1.12	0	10	.....	.....	.....	.....	Harry E. Gewe.
Oregon	Ogle	702	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Fred A. Free.
Ottawa	La Salle	500	27	65.8	+ 0.4	100	2	35	22†	42	2.10	− 1.42	0.87	0	6	18	1	11	se.	Miss Maude M. Harris.
Pana	Christain	692	27	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Julius Keefer.
Paw Paw	Lee	930	1	.....	.....	.....	.....	.....	.....	.....	2.65	.....	1.31	0	9	.....	.....	.....	.....	A. C. McBride.
Peoria	Peoria	609	57	66.8	+ 2.5	101	1	37	27	35	2.58	− 0.54	1.66	0	8	12	9	9	e.	U. S. Weather Bureau.
Pontiac	Livingston	546	11	66.5	− 0.9	101	2	36	23†	41	1.81	− 2.22	0.47	0	11	12	9	9	sw.	George Butterworth.
Quincy	Adams	481	7	69.8	.....	105	3	35	22†	44	1.85	.....	0.85	0	7	.....	.....	.....	.....	Fred J. Brinkoetter.
Riley	McHenry	956	54	62.8	+ 1.1	96	2	31	22	33	3.09	− 0.62	0.70	0	9	12	7	11	nw.	John West James.
Roberts	Ford	774	2	.....	.....	.....	.....	.....	.....	.....	1.79	.....	0.65	0	7	17	6	7	ne.	R. E. Bradbury.
Rockford	Winnebago	763	21	63.7	+ 0.3	100	2	32	22	41	3.67	+ 0.63	1.45	0	8	16	4	10	.....	Dr. John R. Porter.
Rushville	Schuyler	670	22	68.4	+ 1.5	103	1	33	22	36	2.22	− 2.08	0.83	0	8	10	10	10	s.	H. F. Dyson.
St. Charles	Kane	700	18	64.0	− 0.2	100	2	31	23	42	2.72	− 1.83	1.10	0	6	14	13	3	s.	Dr. William H. Bishop.
St. Peter	Fayette	500	11	68.6	− 0.9	102	3	34	22	36	2.88	− 0.56	0.91	0	9	14	5	11	sw.	M. L. Lansford.
Sparta	Randolph	538	27	70.6	+ 0.7	103	3	36	22	37	4.21	+ 0.75	1.65	0	10	19	4	7	se.	James A. Caldwell.
Springfield	Sangamon	644	33	67.8	+ 1.4	99	1	36	22	36	3.41	+ 0.04	0.93	0	10	13	3	14	e.	U. S. Weather Bureau.
Streator	La Salle	626	20	65.4	− 1.0	102	2	34	27	41	1.21	− 2.25	0.35	0	8	17	7	6	sw.	Miss Lora Sweetser.
Sullivan	Moultrie	530	13	68.7	+ 0.3	104	3	34	22	40	3.82	+ 0.18	0.89	0	8	17	7	6	se.	C. A. Corbin.
Sycamore	Dekalb	855	33	62.4	− 0.3	99	2	29	22	47	3.23	− 0.22	0.76	0	8	.....	.....	.....	.....	George E. Valentine.
Tiskilwa	Bureau	798	29	.....	.....	.....	.....	.....	.....	.....	1.60	− 2.73	1.06	0	7	.....	.....	.....	.....	F. I. Smucker.
Walnut	....do	717	22	65.7	− 0.9	101	2	31	22	37	2.02	− 2.01	1.26	0	8	17	6	7	e.	O. C. Nussle.
Warsaw	Hancock	501	15	.....	.....	.....	.....	.....	.....	.....	1.58	− 1.62	0.81	0	4	.....	.....	.....	.....	W. R. Kirkbride.
Waterloo	Monroe	719	2	.....	.....	.....	.....	.....	.....	.....	5.12	.....	1.35	0	12	.....	.....	.....	.....	Prof. James E. Raibourne.
White Hall	Greene	573	5	69.0	.....	104[a]	3	30	22	38	3.87	.....	1.48	0	11	21	4	5	.....	Frank Dillman.
Windsor	Shelby	681	14	69.0[a]	+ 1.1	104[a]	1	34[a]	22	43	3.20	− 0.68	1.20	0	8	15	9	6	nw.	Herbert Rose.
Winnebago	Winnebago	900	26	.....	.....	98[b]	2	31[d]	22	.....	2.76	− 0.82	1.30	0	5	.....	.....	.....	.....	Frank Osborne.
Yorkville	Kendall	584	26	63.0	− 0.3	96	2	31	22†	43	1.18	− 2.55	0.61	0	8	19	3	8	n.	Herman A. Grimwood.

[a], [b], [c], etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.
** Temperature extremes are from observed readings of the dry bulb; means are computed from observed readings.
† Also on other dates.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 2.—*Daily precipitation for September, 1913. District No. 5, Upper Mississippi Valley.*

Stations.	Watershed.	Day of month. 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	Total.
North Dakota.																																
Amenia ‖	Red				.35		.43			1.52						T.									T.	T.						
Bottineau ‖	Mouse			.17	.01		.03	.01			.10					.07				.01	.20			.05	.32	.05						2.30
Bowbells ‖	do			.08	.30															.05			.07	.23	.30						1.02
Cando	Sheyenne						.15	.05		.21	.08															.15						1.03
Crosby	Mouse			.52															T.	T.				.40	.35							0.64
Devils Lake	Sheyenne	.05		T.		.82				1.10	.01				.01				T.	.02				.03	.10	.03						1.27
Donnybrook	Mouse			.67											T.					T.					*	.65						2.17
Dunseith	do			.17		.27	T.			.50	.01				.05				T.	.06				.35	T.							1.32
Eckman (near)	do		.30	T.		.19	T.								T.									.14					.18		1.41
Fessenden ‖	James					T.	.53	T.		T.	.49					T.						T.		T.	.21	.18						0.81
Forman	Sheyenne			.17			.13	.18			.35					.20	.05							.50								1.41
Grafton ‖	Red						.01	.06			1.75					.07									.02							1.58
Granville	Mouse																															1.91
Hannah	Pembina			T.			.04			.54					.04					.02				*	.40							
Hansboro	Red					.25	.05			.62					.13					.07				.48		.07						1.04
Hillsboro	do	T.			.15		.51	.26			3.13									.05	T.			.04	.07	.04						1.67
Lakota	Sheyenne		T.	.03		T.		.28		.06	2.02					T.				.07				T.	T.	T.						4.25
Langdon ‖	Pembina																															2.46
Larimore ‖	Red						.01	1.32			1.08					.03									.03	.03						2.50
Lisbon ‖	Sheyenne				.83	T.	.10	.07			.68	.25						T.						.05	.18		.05					2.21
McKinney	Mouse			.17					T.	T.					.20									*	.90	.10						1.37
McLeod	Sheyenne						.21	.14			1.45					.24	.33							.23	.01	.01						2.62
Manfred	do					.28				.58	.15				T.	.04				T.				.23	.11	.10						1.49
Mayville	Red						.16	.19			1.55														.11	.01						2.02
Milnor	do			T.	.73	.04					1.10					.17	T.							.30								2.34
Minot ‖	Mouse				.17		.34	T.								.06					.06			.05	.43	.47						1.58
Minto	Red				.01		.42			*	2.80				.05							.03		*	.30							3.31
Oriska	Sheyenne				.30		.61				1.10														.30							2.31
Park River	Red						T.	.04			1.01					.05									.06							1.16
Pembina ‖	do																															
Power	Sheyenne			.60		.15	.15				1.15					.07								*	.22	T.						2.34
Towner	Mouse			T.		.09	.08			.75					.11									.01	.20	.18						1.42
University	Red	T.		T.		T.	.02	.75			1.98					.02				T.	T.			.02	.05	.03						2.87
Wahpeton ‖	do		.11		2.15			.25			.35	1.62				.31	.05								.14							4.98
Walhalla	Pembina																															
Westhope	Mouse				.06										.02					.09					.61	.06						0.84
Willow City	do			.33		.19		T.		.19					.07				T.	T.				T.	.40	.07						1.25
Minnesota.																																
Albert Lea	Mississippi										.20	.80				T.				.70					1.70				T.	.25		3.65
Alexandria ‖	do																															
Angus	Red			.02			.90	.85			1.54					.02				.01					.05							3.39
Bagley	do	.20		.66		.13		.16			1.80					.37								.09								3.41
Baudette	Rainy	T.			.25		.25	.31			1.44					.13				.04	.04			.09	.06	T.						2.61
Beardsley	Minnesota		.08	.44				T.			1.20					.30								.42					T.			2.44
Bemidji ‖	Mississippi		.64		.99		.03	.16			1.04	.45				.27	.04			.07					.04	.10						3.83
Bird Island	Minnesota		1.08	.86	T.						.67	.06								.28				.13	.40	T.			T.	.20	T.	3.68
Brainerd	Mississippi			T.	1.06			.09		T.	1.29								T.	.28			T.	.11	.29							3.12
Caledonia ‖	do	T.		.15	.01				.17			.60					T.	.27			1.24				T.	.49	.03			.10		3.06
Campbell ‖	Red		T.		.10						.30	1.27				.22	.06							.06	.20		T.					2.21
Cass Lake ‖	Mississippi				.98	T.		.14			.54	.46				.18	.13			.20				T.		T.	.31					2.94
Collegeville	do		.31	.74	.17			.03			3.42									.30				.20	.17	.04						5.38
Crookston ‖	Red		T.		T.		.40	.86			1.52	.04				T.				T.	T.				.04	T.						2.86
Detroit ‖	do		T.		3.30		.12	.04			.40	1.50				.34	.10				T.				.08	T.	T.					5.88
Fairmont (near)	Minnesota			.39						.25	2.04						.07			.97				.03	.46	.31			.45			4.97
Faribault ‖	Mississippi		T.	1.11				T.			.45	1.11					.03			.97				.01	.30	.06				.04	.03	4.11
Farmington	do	.35	3.50							T.	1.50						.02			.33	T.			.05	.37	.15				.02		6.29
Fergus Falls	Red	.07	.03	.04	.35		.02	.06			3.28					.22				.02				.19		.02						4.30
Fort Ripley ‖	Mississippi				.07				T.			1.90								T.	.10				.20	.27						2.54
Fosston	Red				.20		.17	.14			1.89						.02				.03				.05	.04	.05					2.59
Glencoe	Mississippi		1.75	.50							.75									.50					.25							3.75
Grand Meadow	do			.50				T.	T.			.70				T.				.82	.07			T.	1.42	.18				T.	.82	4.51
Gull Lake Dam	do		.01		1.78			.18			1.17									.11		T.		.06	.11							3.42
Hallock	Red	.01		.10							2.25					.10				T.	.07			.05	.07							2.65
Halstad ‖	do				.62		.39	.14			2.10	.10								.15					.14	.10						3.74
Hinckley	St. Croix																															
International Falls	Rainy				.34		.07	.24			.49	.01				.30				.09	.03	.02		.05	.11	.11						1.86
Itasca State Park	Mississippi										1.72						.29								.04							2.05
Lake Crystal	Minnesota																															
Leech Lake Dam	Mississippi				1.36			.08			1.01					.11	.02			.38		.02		.04	.12	.03						3.17
Little Falls	do	.10		.15							.16	1.00	.50							.65				.15	.22							2.93
Littlefork	Rainy																															
Long Prairie	Mississippi		10	.10							1.48													.15	.42							2.25
Lynd	Minnesota		.52	.47							.15									.08				.33	.10	.05				.15		1.85
Mankato ‖	do			.58	.11						.20	1.03						.02		.18	.48			.03	.38	.24				.02		3.27
Milaca	Mississippi																															
Milan	Minnesota		.51	1.40							.42									.08				.32	.07				.13	T.		2.93
Minneapolis	Mississippi		.13	.36	.03			T.			1.93	.59					T.			.59				.11	.26	.09				.03		4.12
Montevideo ‖	Minnesota		.25	1.49	.09			T.				.21								.01					.47					.15		2.67
Moorhead	Red			.51	.04	.18	.01	.03			1.34					.04								.12		T.						2.27
Mora	St. Croix		.71	.09	.24			.08			.53	.37								.84	.01			.08	.36	.22						3.53
Morris	Minnesota	T.	.03	.45							.55					T.								.30	.10							1.43
New London	Mississippi		.32	.64	.08						1.10									.48				.12	.08							2.82
New Richland	Minnesota			.53							.66	.91					T.		.84			T.		.77						.20		3.91
New Ulm ‖	do			.82	.15						.17	.48						T.		.04	.40			.05	.66	.23	T.			.20		3.20
Osakis	Mississippi		.25	.20				T.			1.26			.80						.08				.24	.10							2.93
Park Rapids ‖	do				2.00	.02	.03					1.25				.06	.18			.01					.05	.12						3.72
Pierz	do		.31	.03				.14			2.75									.40				.35	.13							4.11
Pine River Dam	do				1.80			1.10			2.60									.20		T.		.30	.35	T.						6.35
Pokegama Falls	do				1.40			.08			1.45									.24				.04	.23	.13						3.66
Redlake	Red						.61	.82			1.32					.31								T.	.11							3.17
Red Lake Falls ‖	do																															
Red Wing ‖	Mississippi			1.16	.40							1.48					.04	.02			.64				.08	.50				.04	.02	4.38
Reeds Landing ‖	do			.80	.20							.95									1.50				.26	1.10				.05	.08	4.94
Rochester ‖	do			.08	.55							.55						T.			1.44				.40	1.27						4.29
Roseau	Red						.06	.03			1.41					.10					.02				.13							1.75
St. Charles	Mississippi			.55								.83								1.05	.16				.85	.12					.90	4.46
St. Cloud	do		.56	.44	.18			.08			1.76	.18								.27				.18	.36	.11						4.12
St. Paul	do		.05	.50	.01			.02			1.61	.03					T.			.56	T.			.08	.29	.15				.04		3.34
St. Peter	Minnesota			.75							.25	1.65								.45				.10	.30	.10						3.60

TABLE 2.—*Daily precipitation for September, 1913. District No. 5*—Continued.

Stations.	Watershed.	Day of month.																											Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Minnesota—Contd.																																
Sandy Lake Dam	Mississippi				1.40			.71			1.10									.31				.05	.20	.35						4.12
State Sanatorium	do				.70					.10	1.00					.15				.40					.16	T.						2.51
Stillwater ‖	St. Croix		.38	.31	.14							1.30						.05			.53				.20	.19						3.10
Taylors Falls	do		1.45					.13			1.30									.44				.18	.25	.15						3.90
Thief River Falls ‖	Red					.85		.15			1.65																					2.65
Tracy	Minnesota		.64	1.08							T.									.11				.09	.36					.27		2.55
Warren	Red			T.				.65			2.65														T.							3.30
Warroad	Rainy			T.			.10				.90									.10				.14	.02							1.26
Windom	Des Moines			.23							.80									.28					.52	.09			T.	.19		2.11
Winnebago ‖	Minnesota	T.		.15	.33						.37	.80					T.	T.			.70			T.	.58	.28	T.			.02		3.23
Winnibigoshish	Mississippi				.95		.12				1.20					.12				.32				.05	.10	T.						2.86
Winona	do	T.	.01	.22				.03				.53					.06			.70	.41				.54	.10				.02	.26	2.88
Worthington ‖	Des Moines			.67	.01							.95								.22	.01			.05	.39	.13				.38	.03	2.84
Zumbrota	Mississippi		.10	.90								2.03					T.			.88				T.	.75	.07				T.	.20	4.93
South Dakota.																																
Milbank ‖	Minnesota		.13	.64	.14						.11	.44					.03							.20	.23					T.		1.92
Sisseton ‖	do																															
Wisconsin.																																
Antigo ‖	Wisconsin			.48			.62										T.	.28			.31	1.18				.37						3.24
Barron	Chippewa		1.05	T.	T.						.65						T.			.80					.45							2.95
Beloit	Rock								.14			.33					.65	.40			1.02				T.	.06				T.	1.12	3.72
BigSt.Germain Dam	Wisconsin	T.	.94	.25	.09							.11					.14	.05			1.68	.48	.14	T.	.86	.04						4.78
Brodhead	Rock								.30			.42					.94	.06			1.20					.11					.68	3.71
Burnett	do	.35		T.				.25				.18					.73	.30			1.24	.06	T.	T.		T.				T.	1.20	4.31
Cottage Grove	do	T.							.24			.66					.46	.80			1.46	.12									.49	4.23
Darlington	do											1.00					.50	.05			1.90					.01					1.35	4.81
Deerskin Dam	Wisconsin	T.	.95	.11	.20							T.					T.	.30			.30	.18	.12		.79	.19						3.14
Delavan	Rock								.03		.29							.62				1.06			T.	.06					.28	2.34
Dodgeville ‖	do													.70				.10	.50		.80	.30										2.40
Downing	Chippewa																															1.20
Eau Claire	do		.23	.86								.55					.15			1.43	.19			T.	.97	.05					T.	4.43
Glen Flora	do		.81	.17	.04															.03	1.12	T.				.06						2.23
Grand Rapids ‖	Wisconsin			1.05	.15				.06			.15					.05	.53	.03		.59	.42	.02		.05	.65	.06				.04	3.85
Grantsburg	St. Croix		.01		.25			.26			.90									.27					.45							2.14
Hancock	Wisconsin	.05		.18								.33					1.00	.25			1.30	.32	T.		.08	.65					.49	4.68
Hatfield	Black		2.18									.22					.28				1.40					.40					.10	4.58
Hayward	St. Croix		.08		.04																1.08	T.		.02	.04							1.26
Hillsboro	Wisconsin	.06		T.				.46				.51					1.09				1.80			T.	1.20	.12				.12	1.21	6.57
Koepenick	do			.60			.10					.10					.40				.60	1.00	.20		.40							3.40
La Crosse	Mississippi			.58				T.				.35					.50			1.09	.04				.39	.08				.03	.10	3.16
Lake Mills	Rock	T.							T.			.64					.31	.33			1.10	.03	T.		.02	.06	T.			T.	1.12	3.61
Lancaster	Mississippi								.08								2.35			1.52												3.95
Long Lake	Wisconsin	T.	.03	1.23	.07							.09					.19	.03			1.31	.54	.05		.71	.05						4.32
Madison	Rock							.05				.57				.02	1.19			.36	1.74			T.	.02	.09			T.	.04	.24	4.32
Marshfield	Wisconsin		T.	.67				T.				.14					*	.67			.99	.11			.53	.02						3.13
Mather ‖	do	T.		.49					.10			.32					T.	.48			.96	.10			T.	.27	.03				.03	2.78
Mauston	do	.15									.60						1.25				1.50				.30	.35				.08	.75	4.98
Meadow Valley	do			.42				.03				.21					.60				1.20				.21	.07				T.	.17	2.91
Medford ‖	Black		.05	.53								.11					.02	.32			1.35	.28				1.03	.11					3.80
Merrill ‖	Wisconsin			.42								.12						.25			.63	1.07	.17		.07	.33						3.06
Minocqua	do		.60	.20	.20							.09					.03	.04			1.66	.40	.05		.77	.08						4.12
Mondovi	Mississippi		.14	1.53								.60					.09	.04	.02	1.04	.16	.03	.01		.78	.13	.01			.04		4.62
Mount Horeb	Rock								.04			1.08					.70	.08			1.70				T.					.12	.20	3.92
Muscoda ‖	Wisconsin											.34	.47				.60	.57			1.50	.37			T.	.37	.07			T.		4.29
Neillsville	Black			.90								.21									1.50				.38							2.99
New Richmond	St. Croix																															
Osceola	do		1.88	.05	.07							1.00								.56				.23		.45						4.24
Park Falls ‖	Chippewa		.06	1.17	.03	.01		.07				.20						T.			1.08	.20	.19		T.	.86	.03					3.90
Portage ‖	Wisconsin			T.				T.	.35			T.	.21				.24	.48			1.04	.75			.08	.16				T.	T.	3.31
Fort Edwards	do			1.00				.06									.50	.10			.79	.63	T.		.14	.57				T.	.22	4.01
Prairie du Chien ‖	Mississippi								.18			.32	.54				.28	.52			1.10	.06			T.	.58	T.				T.	3.58
Prairie du Sac	Wisconsin								T.			.54					.52	.10			1.41					.25	T.			.02	.98	3.82
Prentice ‖	Chippewa		.22	.95	.11	T.						.04						.11			1.80	.27	T.			1.11	T.					4.61
Rest Lake	do		T.		.50	.10						.19					T.				2.03	.45			.85	T.						4.12
Rhinelander	Wisconsin	.13		1.42	.01							.15					*	.21		.02	.77	1.37				1.09						5.17
Shullsburg	Mississippi								.21			.72					.64				1.57					.11				.14	1.24	4.63
Solon Springs	St. Croix			.45	.30			.20			.02	.60									T.	.50	T.	.30	.30							2.67
Spooner	do		1.10	.18	.12		.04	T.			.08	1.13					T.			.40	.02			T.	.35	.04						3.46
Stanley	Chippewa	T.		.68	T.			T.				.23						T.							.50	.20						1.61
Stevens Point	Wisconsin			1.03					.17			T.					.55	.37			1.20	.70	T.		.20	.67					T.	4.89
Sugar Camp Dam	do		.67	.37	T.						.14						.12	T.		.97	.63	.52	T.		.80	T.						4.22
Tomahawk	do		.90	T.														.40			.13	.90	T.		.10							2.43
Trout Lake	do		.88		.06							.12									1.45	.30	.10			.15						3.06
Twin Lakes Dam	do												.04									1.94			.97							2.95
Valley Junction	do											.80					.30				.60				.30						.80	2.80
Viroqua	Mississippi			.07					.08			.65					.60	.03		.09					.90	.10			.10			2.62
Vudesare	Wisconsin			.30	.20												T.				.90	.40	T.	.40	T.							2.20
Watertown ‖	Rock	.05							.20							T.	.28	.58			.29		T.		.04		.07			.04		1.55
Waukesha	Fox	.06										.25					.30	.28			.95	.30			.02	T.					.33	2.49
Wausau ‖	Wisconsin			1.44					T.			.09						.25			.58	1.23	.04		.08	.44						4.15
Weyerhaeuser	Chippewa		.70	.02	.02		T.					.35					.06			1.18	.39	.02	T.	.02	.49	.05						3.30
Whitehall	Mississippi			.90				.10			.30									1.70					.50	.10				.10	.40	4.10
Iowa.																																
Albia ‖	Des Moines						.02			.03		1.10	.20				.04	.22			.70						.08				.03	.04	2.46
Algona	do			.42					T.		T.	.40					T.			1.20				T.	1.00	.14			T.		.38	3.54
Alta ‖	Raccoon			.19							.32						.03			.03	.85			.08	.35	.70				.20	.28	3.03
Amana	Iowa								.27			.68				T.	.98			.23	.30				.01	.15			.01		.48	3.11
Ames	Skunk								T.			.92				T.	.14			.20				.13					T.	.43	T.	1.82
Baxter	do								.31			.43					.38	.02		1.37	.01				.06	.13				.02	.96	3.69
Belle Plaine	Iowa								.72			.48					.92	T.		.38	.14			T.	T.	.22			T.	.03	.38	3.27
Belmond	do								.09			1.43					T.							.04	1.67	.24			.06	.02	.28	3.83
Bloomfield	Mississippi											.89					.16	.10		.27	.62					.08			.07		.50	2.69
Bonaparte	Des Moines											1.25					.14	.02			1.16					.07			.02		1.37	4.03
Boone ‖	do						T.			T.		1.16	.08				.20	T.			.28				.15	.83				.05	.40	3.15
Britt	Iowa			.20					T.		.32	.82					.03			.79				.03	1.20	.21				.07	.42	4.09
Burlington ‖	Mississippi											T.	.10				.11	.47	.02		.65						.07				.07	.05	1.54

TABLE 2.—*Daily precipitation for September, 1913. District No. 5*—Continued.

Stations.	Watershed.	Day of month. 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	Total.
Iowa—Continued.																																
Carroll ‖	Raccoon			.37						.05	.76						.16	.08		.42				1.00	.95				.17	.54		4.58
Cedar Rapids	Cedar									1.26		.35	.34				1.40	.28			.70				T.	T.	T.			.06	.09	4.40
Charles City	...do	.17		T.					.52		.10	.20					.01	.01		.82				T.	.92	.07			.06		.61	3.49
Clinton	Mississippi											.15					1.33	.01			1.47					.09				.03	.01	3.09
Columbus Junction	Iowa											.55				T.	.55	.33			.63					.15			T.	T.	.35	2.56
Davenport	Mississippi								.04			.04				T.	.51	.05		.53	.23					.06			.05	T.	.29	1.80
Decorah	...do											.50					.20			.62	.46				.22	.20					1.30	3.50
Delaware	...do								.13			1.78					1.12				1.22					.10				.02	.30	4.67
Des Moines	Des Moines								.17		.11	.99				.02	.02			.53				T.	.17	.13			.06	.44	.01	2.65
Dubuque	Mississippi							.42	.14			.86				.01	.91	T.		.54	.47				.01	.05			.02	T.	.16	3.59
Earlham	Raccoon								.06	T.	.30	.15					.21			.23					.26				.45	.52	.29	2.47
Elkader	Mississippi								.18			1.00					.90			1.30					.41						.63	4.42
Elma	Wapsipinicon	.32							.15			.35				T.	.05			.55	.06			T.	.90	.10				.02	.50	3.00
Estherville ‖	Des Moines			.20	.05						.18	.97						T.			.90				.40	.38				.20	.10*	3.38
Fairfield	Skunk											.59					.15		.02	.28	.55					.10			.03	.02	.43	2.17
Fayette	Mississippi							T.	.31			1.25					.63			.89					.75	.18				T.	.73	4.74
Forest City ‖	Cedar			.20							.15	1.80					T.			.75					.70	.62			T.		.30	4.52
Fort Dodge ‖	Des Moines			.35							.11	1.50									.66			.11	.95	1.10			T.	.10	.90	5.78
Fort Madison	Mississippi								T.			.35					.45				.85					.11			T.	.02		1.78
Gilman	Iowa								.18			.60				.16	.20			1.42					.62	.10						3.28
Grand Meadow	Mississippi							.02				.80					.28			*	1.05				.65	.28			.02	T.	1.49	4.59
Grinnell	Iowa								.45			.53					.40			.77					T.	.16			T.		.52	2.83
Grundy Center	Cedar								.18			.93				.57				1.01	.20				.12	.20			T.	.04	.52	3.77
Guthrie Center	Raccoon								.02	T.	.48	.07					.11			.18				.01	.94	.44			.16	.78		3.19
Hampton	Cedar								1.70		.85						.25			1.40				.27	.65				.04	.05		5.21
Humboldt	Des Moines			.16											1.27					.70				.05	1.05	.18					.63	4.04
Independence	Wapsipinicon								.46			1.25					.60	.03	.01	.13	.48			T.	.16	.56				.07	.83	4.58
Indianola	Des Moines					T.			.38		T.	.66				.03	.01	.01		.41				T.	.05	.23			.09	.01	.01	1.89
Iowa City ‖	Iowa								T.	.04		.12	.26				.90	.28	.03		.96				.01		.10			.12	.37	3.19
Iowa Falls ‖	...do	.08							1.85	.13		1.10	T.				.10	.33			1.15				.14	1.03				.02	.08	4.01
Jefferson	Raccoon			T.							.47	.15			T.		T.			.42				.04	2.11	.37			.23	1.20	.03	5.02
Keokuk	Mississippi											.05				.09	.27	.04		.79	.01					.02			.13	.01	.01	1.42
Keosauqua ‖	Des Moines									T.		.42	.92				.05	.07	.02		1.17						.14			.02	1.02	3.83
Knoxville	...do								.12	T.							.30	T.		.66	T.			T.	.20	.20			T.	T.		1.48
Lacona	...do								.01	T.		.32					.18	.01	.28						.14	.20			.01			1.15
Lansing	Mississippi																															
Le Claire	...do	T.							T.	.08			.01				.08	.20	.04		1.32	.25				.05			.06	.01		2.10
Marshalltown ‖	Iowa									.65		.29	.06				.51	.09	.01		1.45				.02	.20	.02			.04	.10	3.44
Mason City	Cedar			.11		.13						1.01									.88				1.23					.03	.30	3.69
Monroe	Skunk								.49			.45					.64	.06		.97	.05				.29	.12			T.	.15	T.	3.22
Mount Pleasant	...do							T.		T.		.41					.23	.39	T.		.32					.24			T.	.04	.39	2.02
Muscatine ‖	Mississippi									T.		.07	.12				.27	.60	.22		.50	.04					.07			.04	.70	2.63
New Hampton	Wapsipinicon	.40										.56					.27			.66	.22				.56	.10					.68	3.45
Nora Springs	Cedar		.08			T.			.20		1.33	.20					.02			1.33				.04	1.85	.02			.05		.48	5.60
Northwood	...do			.40							T.	.52					.02	.02		.75					1.35	.23					.03	3.32
Olin	Wapsipinicon								.25		.25						1.00			1.30					.15					T.	.45	3.40
Osage	Cedar											1.43								.93					1.20	.21					.28	4.05
Oskaloosa	Des Moines								T.			.76					.29	.06		.85				.02	.35	.14				.20		2.67
Ottumwa	...do																															
Pella	...do								.45			.71				T.	.28	.17		.60				T.	.20	.07			T.		.24	2.72
Perry	Raccoon			.03		.04	.13										.05	.04		.18	.03			.02	.63	.26			.07	.11	.11	1.70
Pocahontas	...do										.53	.45					.37			.45				.05	.96	.17			.10	.85		3.93
Rockwell City	...do				.65						.85	1.00				.20				1.10			.50	1.65					1.10	1.10		7.15
Sac City	...do			.35							.31	.26					.35			.84					1.05	.15			.12	.50	.36	4.29
St. Charles	Des Moines					.13				T.	.05	.93				.06	.14	T.		.52				T.	.08	.21			.07	.60	.02	2.81
Sigourney	Skunk								T.			.93											1.20		.03	.08			T.		.34	2.58
Stockport	Storm Lake									T.		.76					.14	.18			.96					.15			T.	T.	.47	2.66
Storm Lake	Raccoon		T.	.13							1.00	.17					.07			.67				.17	.81	.08			.21	.02	.50	3.83
Tipton	Cedar								.53			.22					.80	.03			1.20				.02	.15			.04	.39	.08	3.46
Toledo	Iowa								.36			.35					.77	T.		.65	.10				.02	.20				.08	.25	2.78
Washington	Skunk											.58					.46	.44			.94					.10			.01		.26	2.79
Waterloo ‖	Cedar								.50	T.		.50	.08				.85	.15			.65				.02	.45	.08			.02	.60	3.90
Waukee	Raccoon								T.	T.	.20	.79				.02	.06	T.	T.	.25					.15	.32			.06	.77	.05	2.67
Waverly	Cedar																															
Webster City	Des Moines								.18		T.	.26					T.			.63	.06		T.	1.24	.24			T.			.10	2.71
West Bend	...do			.47					T.		.34	.34					.19			1.00				.03	1.00				T.	.05	.10	3.52
Whitten	Iowa								.60	T.		1.30					.59	T.		.85					.22	.25			T.		.25	4.06
Winterset	Des Moines									T.	.10	1.03				T.	.10			.33	T.				.18	.30			.13	.38	.14	2.69
Missouri.																																
Gorin	Mississippi											.34					.01	.14			.57					.05			.07	.01	.07	1.22
Hannibal	...do								.04			1.39					.12	.12	.04	T.	1.41	.03			T.		.03			.72	.01		3.91
Louisiana	...do								1.35			.40	.45				.13	.20		.08		.70					.10			1.22			4.65
Macon	...do								.41			1.33	.09				.02	.18	.06			.85					.04			.43			3.59
Mexico ‖	...do									.63			1.18	.01				1.19	.01	1.10		.77						.09		.32	.50		5.80
Palmyra	...do								.63			2.85					.76	.03		1.18									.58			6.03
Steffenville	...do											.05					.07	.56	T.		1.08					.03			.30			2.06
Sublett	...do											2.00					T.	T.											.20		T.	3.48
Vandalia	...do								.57				1.32				.70	T.	.15		.82								1.15			4.73
Warrenton ‖	...do							T.		.30			2.07					.56		.49		.51						.17		.34	.68		5.11
Indiana.																																
Collegeville	Iroquois					T.		T.		T.			.25			T.	.88	T.			T.		T.				.20			.23	T.	1.56
Knox	Kankakee							T.					.21				.05	.69	.02														2.42
Laporte	...do							.33				.02	.04				.04	.45	.50											T.	.18	.55	2.23
Plymouth	...do							T.	.06			T.	.03				.04	.53	.06			.31	.01	.01			.20				.10	.30	2.23
South Bend	...do					T.		.34	.52				.07				.02	.40	.06	.01		.34	.05	.40			.04			.25	T.	.19	.25	1.76
Illinois.																																
Aledo	Mississippi								T.			.04				T.	.68	.20			.80					.07			.03	.04	.33	2.19
Alexander	Illinois							.21	T.	.29		T.	.84			.12	.15	.05			.36					.01	.09		.85	.07		3.04
Antioch	...do											.27					1.30				1.25										.28	3.10
Astoria	...do								T.			.05	.03			T.	.45	T.	.02		1.12				T.	.05			.35	.05		2.12
Aurora	...do								.10			.10					.53		.05		.36	.02			T.	T.			.04	.32	.16	1.68
Beardstown ‖	...do																															
Bement	Mississippi																															
Bloomington	Illinois	T.						T.	T.			.16					1.12				.40								.34			2.27
Cairo	Mississippi							T.	.17		.14		.24		.10	.40	T.	.61	.17		.02							T.	.37	T.		2.22

TABLE 2.—*Daily precipitation for September, 1913. District No. 5*—Continued.

Stations.	Watershed.	Day of month.																											Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Illinois—Continued.																																
Camp Point	Mississippi											.05				T.	.20	T.	.01		.82					.05			.36	.15		1.64
Carbondale	do							.01	.23				.65	T.	.01	.53	.14		.74	.01	.15	.02					.02		.17	.06		2.74
Carlinville	Illinois						T.		.58				.44			.39	.45	.03	.02		.80						.36		.65	.08		3.80
Carlyle	Mississippi							T.	1.10	.40		.04	1.27			1.06	.22	.05	.08	.04							.20		.11	T.		4.57
Chester ‖	do								.01	.12			2.72	.78		.42	.26	.02	.38	.12	.18						.28	.02	.06	.04		5.41
Clinton	Illinois							.10				T.	.25			.40	1.10	.37			.50					T.	.21		.58	.11		3.62
Cobden	Mississippi							T.	T.				3.45		T.	.29	.27		.45	.25	.07								.03			4.81
Dakota	do											.25					.94	.08			1.12					.06				.03	.32	2.80
Decatur ‖	Illinois							T.	.27	.35			.65			T.	1.20	.17	.10		.46	T.					.22		T.	.32		3.74
Dixon ‖	Mississippi	T.					T.		.10	.30			.25				.07	.70	T.		.60	.50			T.		T.			.05		2.57
Du Quoin	do							T.	1.34				1.78		T.	.90	.17	T.	.53		.12								.12		.03	4.99
Dwight	Illinois											.13				T.	.35	.06			.18	T.					.02		.04	.10		.88
East St. Louis ‖	Mississippi										T.		2.15	.13	T.	.48	.24	.13	.87	.03	.36	T.					.43	T.	T.	.14		4.96
Edwardsville	do									.12		.30	.98			.66	.32	.05	1.17		.33					.45			.18			4.56
Elgin	Illinois					.02			.02			.18	.18				.23	.06			.81									.05	.58	2.13
Ewing	Mississippi								.65				1.00				.95		.89		.31						.02	.04	.02			3.88
Fairview	Illinois							T.	T.		T.	T.				T.	.40	T.	.05		.71					T.	T.		.13	.14		1.43
Galva ‖	do								.02	.13			.06				.21	.52	T.		.57	.15					.03			.16	T.	1.85
Grafton ‖	Mississippi									.08			1.90			.04	.41	.08	1.04		.41						.32		.08	.68		5.04
Greenville	do								.10	.02		.91	.45			1.03	.38	.01	.05		.18					.05	.17		.10	.07		3.52
Griggsville	Illinois											.05	.40			.03	.24	.18			.91					.09	.02		1.10	.08		3.10
Havana	do								T.			.02				.03	.30				.90					.01			.28	.05		1.59
Henry	do								.18			.07				T.	.74				1.04						.03		.07	.08		2.21
Hillsboro ‖	Mississippi									3.50			1.35	T.		T.	1.15	.58			.30						.34					7.22
Joliet	Illinois							T.	.10			.18				.19	.51				.22	T.				.02			.10	.05		1.37
Kishwaukee	Mississippi								T.			.31					1.15	.70			1.00	.03			.01	.04				.01	.33	3.58
La Grange	Illinois																															
La Harpe	do									T.		.14					.36	.04	T.		1.23					.02			.05	.02	.10	1.96
Lanark	Mississippi								.48			.13				T.	.60	.02			1.16	.03				.07					.37	2.86
La Salle	Illinois				T.		T.		T.			.19				.09	.49	.01			.97				T.	.01			.07	.09	T.	1.92
Lincoln	do							T.	T.			T.	.09			.08	.54	.53			.54					T.	.14		.57	.09		2.58
Macomb	do																.33	T.		T.	1.17					T.			.24	.15		1.89
Manteno	do							T.	T.			.13				T.	.81				.24	.04					T.			.13		1.35
Martinton ‖	do									.30		T.					.78	.09			.50						.25			.30		2.22
Mascoutah	Mississippi								.02	.02			1.25			.75	.27	.05	.20		.30					T.	.10		.01			2.97
Minonk	Illinois							.01				.02				T.	.58				.50						.03		.08	.10		1.32
Monmouth	Mississippi																.65	T.			1.15					T.			.05	.04		1.89
Morris	Illinois											.07				T.	.33				.20	.09					.01		.01	.10		.81
Morrison	Mississippi								.50			.26					.42	.05	T.		1.21	.02				.08	T.			.02	.03	2.59
Morrisonville	Illinois											T.	.41			.53	.56	.76			.57					T.	.29		.38	.16		3.66
Mount Vernon ‖	Mississippi								.03	.01			1.31	.18		.82	.52		.06		1.10						.05			.12		4.20
Nashville	do							T.		.07		T.	1.12			.88	.22	.03	.04	T.	.33	T.					.11	.03	.04			2.87
Oregon	do																															
Ottawa	Illinois											.45					.44	.04			.87	.02								.28		2.10
Pana	Mississippi																															
Paw Paw	Illinois					T.			T.			.23					.64	.28	.02		1.31	.03			T.	T.			.03	.10	.01	2.65
Peoria	do						T.	T.				T.				.29	.39	.01		.23	1.43				T.	.03			.17	.03		2.58
Pontiac	do							.47	.25			.01	.01			T.	.47	.01	.05		.33	T.					.03			.10	.08		1.81
Quincy ‖	Mississippi									T.			.36				.31	.02	T.		.83	.02					.02			.29		1.85
Riley	do								.70			.35					.31	.43			.62	.02			.01				T.	.03	.62	3.09
Roberts	Illinois			T.				T.	T.			T.				.21	.65	.10			.25	T.				T.	.20		.18	.20		1.79
Rockford ‖	Mississippi	T.							.45				.29				.22	1.23			.40	.45					.05		T.		.58	3.67
Rushville	Illinois									.02			.03				.46	.25			.83					.06			.45	.12		2.22
St. Charles	do					T.			1.10			.12				T.	.35	T.			.70	T.			T.	T.	T.		T.	.10	.35	2.72
St. Peter	Mississippi								.22			.48	.55			.91	.34	.12	.08		.13						.05		T.			2.88
Sparta	do							T.	.79	.20			1.65		T.	.69	.15	T.	.17		.38						.08	T.	.09	.01		4.21
Springfield	Illinois								.02			.66	.11			.28	.28	.14		.18	.75					.11			.88	T.		3.41
Streator ‖	do	.01											.06				.35	.20	.01		.34	.03								.21		1.21
Sullivan	Mississippi							.19					.72			.60	.89	.80			.30						.20		.12			3.82
Sycamore ‖	do					T.			.26				.25				.23	.76			.60	.33								.12	.68	3.23
Tiskilwa	Illinois								.10		.07					T.	.16	.05			1.06				T.	T.			.05	.11	T.	1.60
Walnut	Mississippi					T.						.20					.35	.05	.03		1.26				T.	.03			.04	.06		2.02
Warsaw ‖	do											.26					.50	.01		.81												1.5
Waterloo	do							.02	1.22	.02		.03	1.32			.65	.43	.08	.90		.25						.11		.09			5.12
White Hall	Illinois								.50	T.		T.	.81			.02	.18	.13	.23		.33					.02	.12		1.48	.05		3.87
Windsor	Mississippi								T.				.37			1.20	.85	.28	.04		.43								.01	.02		3.20
Winnebago	do											.25					1.30				.78					.03					.40	2.76
Yorkville	Illinois								.02			.12					.07	T.	.04	.01	.61								.01	.30		1.18

* Precipitation included in that of the next measurement.
‡ Separate dates of falls not recorded.
‖ Precipitation for the 24 hours ending on the morning when it is measured.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 3.—*Maximum and minimum temperatures at selected stations for September, 1913. District No. 5, Upper Mississippi Valley.*

Date.	North Dakota.										Minnesota.															
	Botti-neau.§§		Devils Lake.		Lisbon.§§		Minot.§§		Pembina.§§		Collegeville.		Crooks-ton.§§		Grand Meadow.		Monte-video.§§		Moorhead.		New Ulm.§§		Pine River Dam.		St. Paul.		Winnibi-goshish.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	71	57	79	56	95	51	77	57	.....	.....	93	61	84	64	100	65	99	62	96	62	99	61	96	56	96	66	92	58
2	74	40	71	43	76	52	70	41	.....	.....	84	62	75	51	93	70	74	65	75	54	85	74	91	60	84	66	85	60
3	72	49	72	53	78	52	72	45	.....	.....	72	57	77	53	85	67	82	63	75	52	84	68	70	52	72	63	74	49
4	91	54	85	60	86	58	94	57	.....	.....	80	57	83	58	91	60	98	65	83	62	96	67	67	52	89	62	65	48
5	87	62	88	62	92	62	88	65	.....	.....	92	58	87	61	97	69	97	67	92	62	99	71	85	62	95	70	78	58
6	87	54	87	59	86	62	85	59	.....	.....	91	73	89	64	94	70	98	69	88	69	98	74	88	68	93	73	88	53
7	73	47	70	49	75	52	74	46	.....	.....	83	64	72	64	94	67	84	69	74	54	91	72	82	61	83	65	78	65
8	73	45	71	41	78	42	74	42	.....	.....	71	50	73	45	79	61	78	50	74	45	80	56	72	47	75	56	72	45
9	81	47	85	59	87	50	90	46	.....	.....	72	49	77	50	77	49	82	55	80	58	78	57	70	46	73	51	74	48
10	70	50	71	48	75	58	72	50	.....	.....	68	56	72	60	84	56	81	62	70	54	79	58	70	54	76	59	70	52
11	72	30	68	40	75	38	72	36	.....	.....	69	51	70	44	74	56	75	49	73	43	72	57	72	50	72	56	70	50
12	75	36	74	40	78	34	79	34	.....	.....	69	45	70	40	68	40	76	41	74	39	77	43	70	46	68	48	72	47
13	73	44	70	42	75	38	78	37	.....	.....	71	45	73	45	76	44	83	44	74	42	81	45	67	39	76	48	66	44
14	70	45	78	50	87	44	68	40	.....	.....	72	57	78	45	76	49	80	50	79	53	75	52	74	48	74	53	73	41
15	69	34	68	44	71	53	70	37	.....	.....	74	53	71	55	74	43	79	48	71	56	78	48	69	48	74	52	62	46
16	75	35	65	41	68	50	72	40	.....	.....	68	46	70	48	62	57	77	47	72	51	73	51	70	54	63	55	63	55
17	74	32	71	39	75	35	75	38	.....	.....	74	50	73	45	73	50	77	49	75	42	74	51	68	46	68	51	73	45
18	80	40	80	49	81	40	81	42	.....	.....	71	48	77	48	72	42	78	47	78	52	77	48	73	39	71	47	70	44
19	48	40	61	38	65	52	55	43	.....	.....	62	47	58	54	68	53	56	50	64	46	66	52	74	42	60	47	71	45
20	58	31	53	32	61	35	62	32	.....	.....	50	38	51	37	53	40	54	39	53	38	52	42	75	39	51	40	60	43
21	53	27	47	25	58	29	56	26	.....	.....	44	33	47	20	48	34	52	33	48	28	51	34	55	34	47	36	50	33
22	56	27	52	25	58	21	59	28	.....	.....	49	25	50	24	52	24	56	31	54	24	57	26	49	20	49	32	48	22
23	45	28	42	34	58	35	40	34	.....	.....	42	32	45	31	65	31	48	26	42	38	60	30	46	29	52	35	48	22
24	40	32	40	33	49	38	38	32	.....	.....	48	41	45	35	68	49	51	37	45	40	48	40	49	38	52	47	45	38
25	56	32	49	38	53	35	59	32	.....	.....	45	38	50	40	51	41	48	39	50	40	49	41	53	42	48	43	48	44
26	67	33	66	34	74	32	71	35	.....	.....	63	34	65	32	65	32	72	32	68	32	68	31	66	33	63	35	64	33
27	70	34	74	43	78	35	77	38	.....	.....	69	42	72	35	71	35	75	39	75	36	69	32	74	31	71	41	72	40
28	80	36	78	43	80	38	82	45	.....	.....	67	44	76	41	72	38	68	46	78	40	65	42	73	41	69	45	72	47
29	80	47	76	41	73	38	81	36	.....	.....	61	48	73	41	69	55	61	53	76	39	65	50	72	38	65	55	78	39
30	73	43	78	50	75	40	77	38	.....	.....	69	44	72	41	68	50	72	44	73	47	67	53	73	36	69	51	74	44
Mns.	69.8	40.4	69.0	43.7	74.0	43.3	71.6	41.0	.....	.....	68.1	48.3	69.2	45.7	74.0	49.9	73.7	49.0	70.9	46.6	73.8	50.9	70.4	45.0	69.9	51.6	68.5	45.3

Date.	Wisconsin.														Iowa.											
	Eau Claire.		Grantsburg.		Hancock.		La Crosse.		Madison.		Prentice.		Wausau.		Algona.		Cedar Rapids.§§		Charles City.		Daven-port.		Des Moines.		Dubuque.		Keokuk.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	95	63	97	50	93	61	98	65	92	68	89	49	92	62	97	67	102	69	96	69	99	75	99	76	97	71	100	80
2	88	70	89	65	97	74	95	71	94	73	89	61	92	67	92	.....	101	71	93	69	97	77	98	74	97	73	98	79
3	75	64	72	55	91	64	79	66	81	62	75	57	77	63	90	.....	96	70	89	71	98	72	97	72	89	68	101	78
4	82	59	77	54	83	56	85	63	82	61	76	52	75	53	94	.....	94	65	94	62	89	66	99	71	86	64	97	69
5	91	63	92	60	91	60	92	67	87	62	88	56	82	56	96	.....	96	66	98	68	93	66	99	72	91	67	96	70
6	90	68	91	69	95	66	94	70	91	66	89	68	90	59	93	69	96	69	94	67	93	69	95	72	93	39	92	70
7	86	67	80	67	94	70	91	70	89	69	89	67	86	63	94	66	95	69	94	67	94	74	93	72	92	68	95	72
8	80	54	73	46	79	61	78	58	72	55	79	41	74	55	80	60	74	72	95	61	78	61	78	66	73	57	88	68
9	75	45	74	47	73	44	76	50	71	49	71	38	70	43	76	67	77	57	72	54	79	59	78	59	75	54	83	63
10	77	54	71	59	80	53	81	58	77	53	74	52	76	50	81	60	83	57	83	59	84	55	85	64	80	57	87	59
11	74	62	70	56	77	60	73	54	65	58	74	58	69	55	73	59	69	57	73	52	72	63	71	59	66	58	75	64
12	68	42	67	41	72	41	67	46	65	51	66	30	63	38	69	57	70	51	68	46	73	53	72	52	68	50	73	57
13	74	42	70	39	75	39	76	44	70	48	70	32	67	39	75	44	76	45	74	40	75	47	75	44	75	46	73	50
14	76	45	75	45	76	48	76	48	72	49	70	41	74	41	74	48	74	45	74	46	76	50	74	49	74	49	76	51
15	73	46	75	54	71	48	74	50	71	50	73	43	70	45	76	45	74	48	74	47	74	49	72	52	73	49	69	55
16	65	55	65	46	67	56	64	58	65	58	73	48	58	52	68	56	69	49	65	60	70	60	66	61	65	60	70	61
17	68	54	71	45	67	53	67	53	61	55	66	50	64	52	73	55	68	60	72	50	67	56	73	61	67	55	70	61
18	64	42	70	36	66	45	67	50	64	50	66	33	65	39	71	51	70	50	70	46	70	52	70	54	69	50	74	58
19	69	47	60	53	70	46	73	50	70	48	68	45	69	41	61	53	74	46	69	50	75	53	73	52	72	51	76	54
20	59	42	56	40	60	40	53	42	59	39	68	38	45	45	55	43	51	48	50	42	59	46	57	46	56	44	60	48
21	45	38	46	35	45	41	45	40	44	39	39	34	41	35	45	35	52	41	51	34	50	42	58	40	48	41	56	40
22	47	33	49	28	44	32	48	33	45	34	39	30	43	31	59	25	53	33	51	27	53	38	57	32	50	36	57	33
23	55	29	46	27	56	28	61	32	60	36	50	28	50	31	70	40	73	33	69	38	74	42	77	47	67	38	79	46
24	66	49	50	41	75	.....	74	50	77	56	60	44	67	35	63	48	82	44	71	50	82	64	77	52	71	62	81	64
25	54	46	51	42	72	.....	54	44	66	45	60	43	51	49	52	40	54	54	52	36	67	47	58	40	63	44	69	48
26	62	38	63	35	59	.....	62	38	57	37	56	31	56	37	64	33	62	37	62	32	62	39	67	36	60	38	62	40
27	71	34	72	40	70	45	71	38	66	45	66	29	68	33	69	38	69	37	70	38	69	41	69	41	71	39	68	40
28	69	39	72	44	70	47	69	41	68	44	71	36	69	38	65	40	67	41	68	41	65	46	58	49	68	44	62	52
29	65	49	70	40	65	51	66	55	64	55	73	34	73	39	65	50	65	45	62	52	71	58	67	57	70	57	72	58
30	70	55	69	46	65	53	65	55	60	51	73	44	70	43	65	53	68	57	66	52	71	57	69	52	65	56	70	56
Mns.	71.1	49.8	69.4	46.8	73.3	51.2[c]	72.5	51.9	70.2	52.2	70.0	43.7	68.2	46.3	73.5	50.1[d]	75.1	52.9	73.3	50.9	76.0	55.9	76.0	55.8	73.3	53.8	77.6	58.1

TABLE 3.—*Maximum and minimum temperatures for September, 1913. District No. 5*—Continued.

Date.	Hannibal, Mo.		Laporte, Ind.		Illinois.															
					Cairo.		DuQuoin.		Greenville.		La Salle.		Monmouth.		Peoria.		Rockford.§§		Springfield.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	101	78	93	64	95	70	100	64	105	64	98	72	102	66	101	72	98	68	99	70
2	99	78	96	62	95	72	102	68	104	69	99	75	102	68	100	74	100	71	98	72
3	99	74	91	65	98	74	104	69	106	71	97	66	103	69	99	68	94	67	99	72
4	99	72	84	61	98	76	104	68	104	70	87	65	97	64	93	66	89	63	94	67
5	95	71	85	60	89	70	95	67	98	64	90	63	98	63	94	64	94	63	92	65
6	91	72	91	57	89	71	96	70	97	67	93	66	96	66	95	67	95	65	91	69
7	94	70	87	65	87	74	94	70	96	71	94	72	98	66	96	68	93	68	95	72
8	88	70	78	62	90	70	99	68	97	71	78	58	85	69	84	64	78	61	89	63
9	86	66	74	52	86	69	85	62	88	64	78	55	84	60	82	61	78	54	83	60
10	88	63	79	45	91	64	91	59	93	55	82	51	88	62	86	55	83	50	86	56
11	80	64	81	48	86	67	91	65	94	64	73	54	84	61	81	59	73	53	86	64
12	72	60	69	54	73	61	83	61	70	62	72	51	76	57	73	54	75	48	71	58
13	72	52	68	40	69	57	73	52	74	50	74	44	78	42	75	42	78	40	70	49
14	75	53	71	41	65	58	75	53	78	48	74	47	79	44	78	48	77	46	74	50
15	63	59	71	45	72	60	67	55	65	54	70	47	71	48	69	51	76	45	64	55
16	72	63	.....	.....	76	65	79	65	74	61	73	60	73	60	75	62	68	49	75	66
17	75	64	.....	.....	79	63	83	67	83	66	68	59	68	60	71	60	64	58	77	63
18	75	61	.....	.....	76	62	72	64	70	60	69	53	73	54	74	55	70	49	73	60
19	76	56	.....	.....	76	60	80	60	80	60	76	48	76	51	77	53	76	48	76	56
20	57	48	.....	.....	69	53	65	51	70	52	66	43	74	46	63	48	52	51	65	50
21	59	42	.....	.....	61	48	60	41	58	42	51	43	55	41	51	38	47	41	54	42
22	60	33	75	37	70	43	67	36	62	34	52	36	56	31	56	38	54	32	56	36
23	80	49	64	30	78	52	80	46	80	44	75	37	78	39	77	42	70	33	78	42
24	84	63	79	57	79	56	82	54	81	52	81	61	82	60	82	60	82	41	80	57
25	68	49	78	48	78	57	81	55	79	53	71	51	69	45	73	51	66	56	76	51
26	63	43	71	48	68	52	76	52	67	49	61	43	68	38	63	41	64	37	59	48
27	69	39	59	31	69	52	72	47	72	42	63	38	73	37	69	37	72	35	66	43
28	62	52	70	38	68	60	70	54	68	54	62	42	67	37	65	50	71	39	63	52
29	75	58	71	48	78	66	82	64	81	62	71	60	72	58	75	56	69	56	73	60
30	72	56	73	56	81	64	81	60	79	57	73	58	72	55	76	55	71	58	75	57
Means	78.3	59.3	77.4[f]	50.6[f]	79.6	62.2	83.0	58.9	82.4	57.7	75.9	53.9	79.9	53.9	78.4	55.3	75.9	51.5	77.9	57.6

[a], [b], [c], etc., indicate respectively 1, 2, 3, etc., days missing from the record.
§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.

CLIMATOLOGICAL DATA FOR SEPTEMBER, 1913.

DISTRICT NO. 6, MISSOURI VALLEY.

MONTROSE W. HAYES, District Editor.

GENERAL SUMMARY.

The most important feature of the weather for September was the termination, during the first part of the second week, of the period of dry, hot weather that had prevailed for the greater part of the summer over much of the eastern half of the district. Unusually high temperatures, continuing from August, prevailed throughout the first week or 10 days, and in portions of the district the September record for high temperatures was broken, and the hottest weather of the summer was experienced. Over the region in which the drought had been particularly severe general relief came on the 8th; throughout the rest of the month rains were frequent and as a result vegetation was revived, and at the end of the month pastures were in better condition than they had been since the early summer. Until the rains began practically no farm work could be done on account of the extreme dryness of the soil, and the general outlook was discouraging, but with the rains conditions improved steadily, and when September closed all seasonable farm work was progressing favorably. In localities of the mountainous States there was, during the first part of the month, much fear of forest fires, but after the heavy rains of the 14th and 15th all danger was passed.

TEMPERATURE.

The mean temperature of the district was nearly normal; there were no unusually large departures in any part of the drainage area. The region of greatest excess embraced North Dakota, eastern South Dakota, and the remainder of the district lying to the east of the Missouri River. Southwestern Nebraska, western Kansas, Colorado, and southeastern Wyoming formed the region of greatest deficiency. The most noteworthy feature from a temperature viewpoint was the abnormally high thermometer readings of the first week, especially in the lower part of the district; there were localities in which the weather was the hottest of the summer, and a new record for high temperatures in September was established. In all parts of the drainage area the first week was the warmest and the last the coldest. Thermometer readings of 100° were recorded in all the States within the drainage area, except Colorado and Wyoming, where the highest were 98° and 99°, respectively. Over practically all of Missouri, Kansas, and Iowa, and in the greater part of South Dakota and Nebraska temperatures of 100° occurred on one or more days. After the first seven or eight days a decided change to cooler took place. In direct contrast to the first week of the month, the last was unusually cool; freezing temperatures were recorded as far south as the northern counties of Missouri and Kansas, and in some parts of the district the earliest killing frosts on record occurred, but owing to the fact that the drought had hastened the crops to maturity very little damage resulted. The highest temperature of the month was 110° at Hopewell, S. Dak., and the lowest was 1° at South Pass City, Wyo.

PRECIPITATION.

The rainfall was below the normal in most of Montana, South Dakota, and north-central Nebraska, and slightly below in a large part of western Iowa. It was generally above the normal in the remainder of the district, and the heaviest amounts were in the region in which the drought had been most severe. In the localities where the entire fall for the month was below the September average there was a sufficiency for all immediate needs, except in a few limited areas in the plateau country. The monthly amounts ranged from 7.44 inches in southwestern Iowa to mere traces at points in Montana and Nebraska. Rainy days were well distributed through the last 20 days of the month, but most of the precipitation occurred in 2-day periods, about the 10th, 16th, 24th, and 28th. There were especially heavy rains in scattered parts of the Black Hills of South Dakota and throughout the lower Missouri Valley. At places in the Black Hills the record for September precipitation was broken, and at Rapid City the greatest amount ever recorded in a 24-hour period occurred. Some damage resulted from washouts, but generally the rainfall over the district occurred without any excessive downpour and practically all was taken up by the soil. In the more elevated portions of Montana, Wyoming, and Colorado the snowfall was heavy and lesser amounts occurred in the Dakotas. At Woodrock, Wyo., 19 inches fell, and at Norris, Mont., the fall was 16 inches. In Wyoming the snow was wet and caused considerable damage by breaking down fruit trees.

RIVERS.

The Missouri River and its tributaries were low for the season. They were falling during the first part of the month at a rather rapid rate. When the rains began at the end of the first week the fall was checked, but it continued at a slow rate through the remainder of the month.

TABLE 1.—*Climatological data for September, 1913. District No. 6, Missouri Valley.*

Stations	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, 0.01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Wyoming.																				
Arapahoe	Fremont	5,200	3								1.40		1.05		4	10[a]	10[a]	9[a]	sw.	Edw. L. Seymour.
Basin	Bighorn	3,862	14	61.4	+ 0.5	96	4	25	21†	54	1.78	+ 1.28	1.11	T.	2	27	1	2	nw.	O. J. Robertson.
Big Creek Station	Carbon	7,500	2								1.66		0.74	3.0	6				sw.	U. S. Forest Service.
Boyd	Weston	6,192	....	51.8		84	6	21	25	45	1.95		1.10	1.7	9	19	4	7	sw.	Kirk Baker.
Burns	Laramie	5,400	3	56.0		88	5	21	24	46	2.10		0.75	0	8	11	19	0	sw.	E. W. Bastian.
Casper	Natrona	5,101	4	58.5		87	6†	25	25†	48	1.06		0.32	T.	6	18	4	8	nw.	Jos. A. Murray.
Centennial	Albany	8,074	10	49.7		76	1	16	25	39	0.80		0.23	T.	10	13	4	13	w.	Louis A. Gregory.
Cheyenne	Laramie	6,088	42	54.0	− 3.2	83	6	24	25	41	2.82	+ 1.88	0.97	T.	14	7	13	10	nw.	U. S. Weather Bureau.
Chugwater	Platte	5,282	12																	A. H. Woolever.
Clark	Park	4,320	8	60.0		91	5	26	25	36	0.46		0.15	T.	4	18	7	5	n.	Chas. A. C. Snow.
Cody	do	5,000	6	56.7		87	5	22	25	44	0.36		0.21	3.0	3	21	6	3	w.	D. A. Tinkcom.
Crandall Creek	do		....	45.2		76[j]	12†	6[j]	25	59[j]	0.58		0.40	0.5	3	16[f]	2[f]	6[f]	sw.	Ira H. Sparhawk.
Dome Lake	Sheridan	8,821	5	43.8		71	6	6	26	35	2.10		0.70	14.0	6	19	7	4	sw.	Abe Mills.
Douglas	Converse	4,793	4	56.6		90	4	17	25	49	0.66		0.26	0.2	5	19	0	11	nw.	Henry C. Miller.
Dubois	Fremont	6,909	6	48.4		76	6	14	25†	50	0.38		0.22	1.0	3	18	9	3	w.	Dr. F. H. Welty.
Eatons Ranch	Sheridan	4,600	8	58.4		91	5	24	25	50	1.60		1.00	T.	3	21	2	7	n.	F. A. Eaton.
Echeta	Campbell	4,200	4																	M. R. Hunter.
Elk Mountain	Carbon		8								1.61		0.55	0.5	7					Wm. Richardson.
Encampment	do	7,322	4	52.7		79[g]	1	19[g]	25	48[g]	1.17		0.50	0.5	7	5[g]	17[g]	1[g]	sw.	U. S. Forest Service.
Ervay	Natrona	6,400	4	53.1		86	5	14	25	51	0.65		0.39	6.0	5	15	8	7	sw.	Frank Jameson.
Fort Laramie	Goshen	4,270	35	59.0	− 0.9	95	6	20	25	60	1.33	+ 0.32	0.48	0	8	15	12	3	w.	John Hunton.
Foxpark	Albany	9,015	3	41.4		69	21	3	25	54	1.45		0.38	6.1	6	13	10	7	sw.	U. S. Forest Service.
Germania	Bighorn	4,312	2	56.3		86	5	22	25	45	0.69		0.43	4.0	3	20	8	2	nw.	J. W. Peper.
Gillette	Campbell	4,546	7																	M. H. Shields.
Horse Creek	Fremont	8,000	1	44.0		73	5	7	25	52	0.89		0.20	0	7	15	8	7	w.	U. S. Forest Service.
Hunters Station	Johnson	8,000	7	48.0		77	4†	8	25	38	1.54		0.41	8.0	8	18	6	6	w.	Do.
Hyattville	Bighorn	4,632	14	58.7	+ 0.3	90	1	24	25	42	0.05		0.05	0	1	18	5	7	w.	Wm. Booth.
Jireh	Niobrara	5,100	3								1.35		0.80	0	7	11	14	5	sw.	P. L. Ford.
Kinnear	Fremont		....	55.8		88	5†	20	25	45	0.51		0.45	T.	2	17	4	9	e.	John C. Hays.
Kirtley	Niobrara		9	56.8		90	5†	20	25	43	1.57		0.78	0	3	16	8	6	nw.	D. M. ZumBrunnen.
Kirwin	Park	9,187	4	42.2		68	4	8	25†	34	1.60		0.90	10.5	8	14	11	5	w.	C. L. Tewksbury.
Knowles	Crook	4,500	4								4.91		2.88	3.3	5	19	7	4	se.	Geo. A. Knowles.
Lagrange	Goshen	4,720	3	57.6		90	6	20	25†	46	1.38		0.46	0	7	14	12	4	s.	Owen Shupp.
Lander	Fremont	5,372	21	55.2	0.0	88	5	17	25	47	1.43	+ 0.41	1.04	9.3	8	13	8	9	sw.	U. S. Weather Bureau.
Laramie	Albany	7,188	22	50.6	− 2.7	77	5	16	25	44	1.44	+ 0.38	0.55	T.	8	12	13	5	.....	University of Wyoming.
Leo	Carbon	6,878	11																	C. A. Cowdin.
Lolabama Ranch	Park	7,052	9	50.4	+ 1.9	87	12	13	26	62	0.60	− 0.14	0.30	4.0	2	21	5	4	w.	Mary E. Painter.
Lovell	Bighorn	3,825	7																	R. Fred Harrison.
Lusk	Niobrara	5,007	22	55.2	− 1.4	84	11	20	24	49	1.05	+ 0.20	0.50	0	3					D. E. Goddard.
Manville	do	5,050	3																	L. C. Stoddard.
Moorcroft	Crook	4,311	9	60.4		94	5	27	25	40	2.53		1.30	1.0	8	12[a]	11[a]	6[a]	s.	C. T. McCampbell.
Moore	Albany	6,000	12	52.4	− 3.4	86[d]	6	21[d]	26	54[d]	1.32	− 0.30	0.80	0	7	6[d]	12[d]	8[d]	w.	Edwin Moore.
Newcastle	Weston	4,319	6	59.6		95	5	24	25	34	1.77		0.70	T.	6	15	9	6	w.	Dr. S. W. Johnson.
Pathfinder	Natrona	5,735	7	57.5	− 0.9	80	5	22	25	36	0.27	− 0.64	0.14	T.	5	14	16	0	sw.	U. S. Reclamation Service.
Pinebluff	Laramie	5,038	10	58.0	− 1.5	90[b]	6	25[b]	26	44[b]	4.84	+ 3.20	1.08	T.	12					C. L. Beatty.
Pine Ridge	Crook		1								3.93		1.55	4.0	10					J. E. S. Altaffer.
Powell	Park	4,376	5	56.2		89	5	21	25	45	0.22		0.10	T.	5	20	6	4	nw.	U. S. Reclamation Service.
Rawlins	Carbon	6,748	11	54.3	− 0.3	89	5	14	25	45	0.37	− 0.71	0.15	T.	6	16	9	5	sw.	E. J. Ehrenfeld.
Rock River	Albany	6,900	....	53.0		83	6	12	25	50	0.34		0.11	T.	6	13	5	12	w.	Rock Creek Conservation Co.
Rockypoint	Crook		1								4.65		2.51	6.0	8	15	7	8	e.	P. Woxen.
Saratoga	Carbon	6,785	15	54.0	0.0	80[g]	1†	11[g]	25	57[g]	0.31	− 0.58	0.15	T.	4	9[h]	1[h]	12[h]	w.	R. G. Hamilton.
Seven-Mile Creek	do		2	47.8		72	3	9	25	37	1.57		0.36	1.0	13	7	0	23	w.	U. S. Forest Service.
Sheridan	Sheridan	3,790	18	55.8	− 0.9	91	5	22	25	49	2.04	+ 0.88	0.90	0.1	8	16	6	8	nw.	U. S. Weather Bureau.
Shoshone Dam	Park	5,385	7	59.6		85	5	29	24	32	0.68		0.32	3.2	5	14	10	6	e.	U. S. Reclamation Service.
South Pass City	Fremont	7,796	11	47.2		76	5	1	25	54	0.67		0.25	3.5	9	12	7	11	sw.	John Sherlock.
Sundance	Crook	4,750	1	56.4		90	5†	22	24	38	0.53		0.15	T.	7	14	9	7	w.	Geo. W. Ashdown.
Thermopolis	Hot Springs	4,350	9	60.0		91	4	26	24	54	2.02		1.18	1.5	6	19	8	3	sw.	A. L. Duhig.
Ulm	Sheridan	4,448	1	57.2		92[a]	4	18[a]	25	46[a]	1.30		0.41	4.0	8	16	11	3	se.	W. H. Coleman.
Upton	Weston		1	55.7		92	4	24	26	45	1.79		0.52	T.	8	11	10	9	nw.	Ray C. Thompson.
Verona	Sheridan	4,360	4								2.84		1.25	10.0	4	21	7	2	se.	O. A. Roode.
Wheatland	Platte	4,700	2	57.8		99	3	18	20	66	1.44		0.60	0	5	13	9	8	w.	C. A. Rockwell.
Wiants Ranch	Carbon	7,400	3								0.57		0.25	2.5	6	5	15	10	sw.	Ira G. Wiant.
Woodrock	Sheridan	8,500	2								3.18		1.06	19.0	8	16	7	7	sw.	U. S. Forest Service.
Worland	Washakie	4,033	2	57.8		91[b]	13	26[b]	26	53[b]	0.76		0.68	T.	4	18[a]	7[a]	4[a]	nw.	Prof. B. C. Buffum.
Wyncote	Goshen	4,186	6	58.8		90	6	19	25	50	1.84		0.52	0	7	7	20	3	se.	U. S. Reclamation Service.
Yellowstone Park	Yellowstone Park	6,200	25	50.4	− 3.0	78	6	19	25	40	1.34	+ 0.33	0.64	4.8	10	12	11	7	sw.	U. S. Weather Bureau.
Fountain	do	7,220	7	44.4		72	6	13	25	44	0.90		0.50	0	3	23	3	4	w.	U. S. Army.
Gallatin	do	7,400	2								0.70		0.20	3.0	5	19	5	6	s.	Do.
Grand Canyon	do	7,900	6	45.4		90[a]	1	8[a]	25	54[a]	1.41		0.27	1.4	9	16[a]	7[a]	6[a]	s.	Do.
Lake Yellowstone	do	7,733	9	49.2		73	5	21	18	45						20	0	10	se.	Do.
Norris	do	7,500	9			70[l]	13†	11[l]	27	53[l]					4	26	1	3	sw.	Do.
Riverside	do	6,500	7	49.0		91	1	14	26	49	0.96		0.50	0.3	4	16	3	11	sw.	Do.
Soda Butte	do	7,000	8	44.9		84	1	3	20	68	0.42		0.41	T.	2	9	11	10	sw.	Do.
Sylvan Pass	do	7,000	6	47.6		77	6	14	25	48	0.79		0.35	T.	7	23	2	5	w.	Do.
Thumb	do	7,772	7	45.1		71	6†	11	25	42	1.60		0.70	2.0	6	18	3	9	sw.	Do.
Tower Falls	do	6,250	4	49.3		80	6	11	25	55	0.72		0.38	2.0	4	17	10	3	w.	Do.
Upper Geyser Basin	do	7,395	9	47.2		73	5†	11	25	47	1.43		0.67	T.	7	11	7	12	w.	Do.
Montana.‡																				
Absarokee	Stillwater	4,000	3	54.6		92	5	10	24	52	1.40		0.91	8.0	5	23	4	3	.....	E. F. Bryant.
Adel	Cascade	5,200	14																	Mrs. Bessie F. Burch.
Agricultural College	Gallatin	4,900	15	54.0	− 0.6	85	4†	19	24	37	2.00	+ 0.31	0.48	13.0	11	17	10	3	e.	Edmund Burke.
Augusta	Lewis and Clark	4,071	14																	C. C. Covington.
Babb	Teton	4,461	6																	U. S. Reclamation Service.
Bald Butte	Lewis and Clark	6,500	3								1.32		0.61	11.5	6	18	8	4	.....	Mary L. Alderson.
Bigtimber	Sweet Grass	4,094	7	57.8		90	5	23	25	57	0.46		0.15	1.0	4	18	7	5	w.	F. A. Severance.
Billings	Yellowstone	3,115	17	58.5	− 2.6	98	5	25	25	56	1.80	+ 0.77	1.28	0	5	18	8	4	sw.	Dean J. Cole.
Blackleaf	Teton	4,260	5	53.0		80	4†	23	24	43	0.27		0.15	1.0	3	15	9	6	w.	Roy McNeal.
Boulder Nursery	Jefferson	5,200	17	51.4	− 1.1	85	5	19	24	52	1.10	− 0.38	0.50	4.0	4	18	11	1	.....	U. S. Forest Service.
Bowen	Beaverhead	6,080	6	44.5		82	7	6	24	64	0.75		0.40	T.	6	21	5	4	.....	B. B. Lawrence.
Box Elder	Hill	2,677	....	56.6		91	4	22	24	46	0.86		0.75	T.	2	13	12	5	n.	C. L. Herzog.
Bridger	Carbon	3,664	4	57.4		93	5	22	25†	50	0.79		0.42	T.	3	16	5	9	n.	L. E. Gard.
Broadview	Yellowstone	3,800	6	57.0		95	5†	8	24	62	2.42		0.90	6.0	6	23	4	3	sw.	Thos. S. Hunt.
Browning	Teton	4,440	4	57.4[l]		83[l]	8	10[l]	24	63[l]	0.50			0	....	14[l]	4[l]	0[l]	w.	U. S. Reclamation Service.

TABLE 1.—*Climatological data for September, 1913. District No. 6*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Sky.				Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Montana—Continued.																				
Busby	Big Horn		9	55.3[a]		94[l]	13	18[b]	25	53[l]	2.06		0.91	11.5	6	17	7	6	nw.	Rev. G. A. Linscheid.
Busteed	Stillwater	4,050	5	56.4		89	14	25	24†	53	1.64		0.87	T.	6	20	8	2	w.	T. H. Busteed.
Canyon Ferry	Lewis and Clark	3,670	14	58.4	+ 2.0	91	4	29	25	48	0.53	− 0.65	0.37	0	3	21	7	2	nw.	W. L. Kirk.
Cascade	Cascade	3,361	8	58.3		90	4	27	11	57	1.13		0.56	T.	4	17	10	3	sw.	Dr. E. E. James.
Chester	Hill	3,132	9	57.6		88	4†	28	10	52	0.34		0.30	0	2	21	7	2	sw.	C. F. Baker.
Chinook	Blaine	2,502	14	55.5[l]	− 2.2	93[l]	13	26[l]	25	40[m]	0.25	− 1.08	0.19	0	3	8[l]	8[l]	2[l]	w.	T. O'Hanlon Co.
Clydepark	Park	5,027	1	55.5		92	13†	20	25	52	0.89		0.30	4.0	7	18	8	4	n.	J. H. Eyman.
Conrad	Teton	3,501	2	58.0		89	13	28	9†	50	0.87		0.39	0	3	19	7	4	w.	Robert J. Kelly.
Copper	Meagher	5,680	8								0.37		0.20	3.0	3	17	9	4	w.	Orville Harris.
Crow Agency	Big Horn	3,041	30	59.0	− 1.0	91	5	22	25	47	2.66	+ 1.67	1.40	5.0	5	12	16	2	nw.	Harry Throssell.
Culbertson	Sheridan	1,927	10																	G. H. Coulter.
Cut Bank	Teton	3,745	14	57.8[m]	+ 5.8	83[m]	12	21[k]	24	62[n]	T.	− 1.95	T.	0	0	18[k]	1[k]	0[k]	w.	Chas. N. Thomas.
Denton	Fergus	3,500	4	58.7		92	4	27	24	48	1.80		0.78	5.0	5	20	3	7	nw.	P. J. Griesenauer.
Dillon	Beaverhead	5,143	15	53.0	− 2.4	81	4	27	25	45	1.77	+ 0.25	0.81	T.	6	21	5	4	sw.	Prof. J. E. Monroe.
Dunkirk	Hill	3,450	1								0.64		0.43	0	3	25	3	2	w.	B. C. Protzman.
Ekalaka	Custer		12	61.4	+ 2.2	95	5	25	23	45	2.45	+ 0.72	0.92	0	9	22	2	6	w.	William Freese.
Fallon	do	2,208	8	60.8		98	4†	26	25	51	2.50			0	4	17	9	4	w.	Mrs. A. C. Gifford.
Findon	Meagher	6,000	1	53.2		84	5	18	24	42	0.79		0.29	4.6	8	22	5	3	w.	Lewis Cameron, sr.
Flathead Creek	Gallatin	6,000	2	51.4		82	7	16	24	42	0.63		0.30	5.8	6	17	8	5	nw.	Alta Williams.
Flatwillow	Fergus			59.2		94	5	27	25	47	0.76		0.30	3.0	9	24	2	4	nw.	W. Johnson.
Forsyth	Rosebud	2,514	6	61.6		99	4	27	25	54	2.43		2.05	0.2	3	14	6	10	w.	H. Mackenzie.
Fort Shaw	Cascade	3,500	24	58.2	+ 2.3	87	4	25	20	54	0.68	− 0.22	0.45	T.	2	20	5	5	sw.	U. S. Reclamation Service.
Foster	Big Horn	2,800	3	58.2		96	5	21	25	55	2.47		1.08	0	6	21	5	4	w.	E. K. Bowman.
Garneill	Fergus	5,500	4																	Thos. E. Scally.
Geyser	Cascade	4,147		59.0		90	5	28	24	46	0.53		0.20		5	14	13	3	w.	I. G. Finfrock.
Glasgow	Valley	2,092	16	57.2	− 1.1	95	4†	21	24	50	0.23	− 0.80	0.23	0	1	27	0	3	nw.	C. D. Bauer.
Glendive	Dawson	2,069	22	59.2	− 1.9	96	4	25	20	49	2.12	+ 0.98	0.80	1.0	6	19	6	5	s.	E. C. Leonard.
Goldbutte	Hill	3,500	5	56.0		86	4	26	24	46	0.58		0.35	0	3	18	11	1	w.	Joseph Berthelote.
Graham	Custer		7	58.0[i]		96[i]	4	25[i]	25	46[i]	3.06		1.00	2.0	6	16[h]	3[h]	3[h]	nw.	J. S. Rue.
Great Falls	Cascade	3,350	21	59.3	+ 1.4	89	4	32	24†	46	0.97	− 0.32	0.52	0	4	24	4	2	e.	S. H. Bauman.
Harlowton	Meagher	4,160	5																	Joseph Muir.
Havre	Hill	2,505	33	57.0	− 0.6	92	4	25	24	48	0.82	− 0.21	0.72	0	4	14	12	4	nw.	U. S. Weather Bureau.
Hebgen Dam	Gallatin	6,700	7																	T. L. Carson.
Helena	Lewis and Clark	4,110	33	57.8	+ 1.6	86	4	31	25	40	0.36	− 0.70	0.27	T.	4	15	10	5	sw.	U. S. Weather Bureau.
Highwood	Chouteau	4,300	6								3.00		1.50	6.0	4	22	3	5	sw.	W. S. McCord.
Huntley	Yellowstone		7	58.7		95	5	27	25	50	1.66		0.98	0	5	23	5	2	e.	U. S. Reclamation Service.
Knobles Ranch	Hill		2								1.08		0.68	0	5	21	5	4	s.	F. H. Knoble.
Lewistown	Fergus	4,006	15	54.4	− 0.7	90	4†	22	25	50	1.88	+ 0.10	0.65	4.0	5	19	5	6	w.	W. W. Watson.
Lonetree	Chouteau	3,280	7	60.4[d]		92[d]	4†	32[d]	24†	51[d]	1.93		0.80	0	4	25	3	2	w.	E. Wilson.
Lothair	Hill	3,301	1	55.8		88	4†	23	24	50	0.45		0.25	0	2	23	2	5	w.	James H. Whiteley.
Lytle	Chouteau		1	57.6		88	4	28	24	42	0.85		0.50	0	4	23	6	1	sw.	J. F. Fait.
Malta	Valley	2,250	6	58.2		96	4	23	19	63	0.31		0.27	0	3	19	5	6	se.	U. S. Reclamation Service
Medicine Lake	Sheridan	1,969	2	55.6		97	5	23	20†	47	0.63		0.53	0	2	26	2	2	s.	J. S. Collier.
Melstone	Musselshell	2,903	1																	C. W. Greening.
Mildred	Custer	2,364	4								2.15		0.98	4.0	3	17	10	3	nw.	Leon B. Clark.
Miles City	do	2,371	21	62.6	+ 1.4	98	5	28	25	49	2.95	+ 2.03	1.53	T.	7	17	8	5	n.	U. S. Weather Bureau.
Norris	Madison	4,845	6	57.6		86	5	27	24	40	2.54		1.27	16.0	8	15	7	8	s.	Montana Power Co.
Pinegrove	Mussel shell		1	51.0		80	13	20	25	41	1.40		0.60	6.0	5	15	12	3	w.	G. W. White.
Pipestone Pass	Jefferson	7,000	4																	Mrs. T. Kiermeyer.
Plevna	Custer	2,757	1	58.8		97	4	26	25	47	2.36		1.07	2.4	6	17	10	3	nw.	C. C. Conser.
Poplar	Sheridan	2,020	27	60.3	− 0.2	100	5	26	25	58	0.60	− 0.32	0.40	0	2	19[b]	4[b]	5[b]	s.	H. M. Cosier.
Red Lodge	Carbon	5,548	13	50.6	− 2.9	82	5	13	25	46	1.45	− 0.51	0.62	5.0	6	15	7	8	nw.	I. A. Draper.
Renova	Jefferson	4,360	14	55.8	− 0.3	87	5	23	24	56	0.48	− 0.81	0.31	0	2	20	7	3	sw.	F. B. Elmer.
Ryegate	Musselshell	3,640	3	56.2		92	5	19	25	54	0.84		0.35	0	5	22	1	7	e.	H. W. Scherfenberg.
Savage	Dawson	1,985	7	59.0		100	5	28	21†	53	0.71		0.40	2.0	3	21	3	6	w.	U. S. Reclamation Service.
Shelby	Teton	3,176	1	56.0		86	4†	24	24	49	0.53		0.25	0	3	25	4	1	w.	Olaf C. Fjeld.
Sidney	Dawson		2																	P. F. Blake.
Springbrook	do		11	58.7	− 0.8	100	5	18	20	56	0.88	− 0.50	0.44	5.0	4	14	13	3	se.	Mrs. H. L. Miller.
Sunlit Farm	Blaine	3,170	1	55.2		90	4†	22	20	49	0.60		0.55	0	3	24	3	3	sw.	C. R. Noyes.
Sun River Canyon	Teton	4,650	1	59.4		85	5†	28	24	50	0.66		0.28	0	3					U. S. Reclamation Service
Three Forks	Gallatin	4,066	2	55.9		90	5	23	25	52	0.42		0.27	0	4	20	4	6	sw.	C. E. Adams.
Utica	Fergus	5,000	18	55.6	− 0.5	89	5	24	24	44	1.13	− 0.16	0.34	3.0	6	21	7	2	w.	P. W. Korell.
Valentine	do	2,800	6	59.6		95	5	24	20	57	0.85		0.43	0	3	22	5	3	w.	B. M. Bean.
Valier	Teton		1	57.6		83	4†	26	24	46	0.50		0.25	0	3	19	11	0	w.	Ford, Bacon & Davis.
Wall Rock Mountain	Broadwater	5,600	4								0.57		0.29	0	5	23	5	2	nw.	D. L. Doig.
Wheaton	Musselshell		1	60.1		91	5	21	25†	49	0.67		0.34	T.	6	16	5	9	se.	P. O. Balgord.
White Sulphur Springs	Meagher	5,280	1	53.3		83	5†	20	25	43	0.50		0.20	3.0	3	16	5	9		P. R. Wild.
Wilder	Fergus		2	59.0		97	13	23	25	60	0.57		0.30	0	2	18	10	2	w.	J. O. Rogers.
Wolf Creek	Lewis and Clark	3,460	9	60.0		91	4	29	22	55	1.03		0.51	0	3	12	16	2	e.	A. J. Reed.
North Dakota.																				
Aplin	Oliver		6	59.0		100[a]	5	22[a]	21	47[a]	1.18		0.70	T.	5	12	10	8	se.	J. B. Hagelbarger.
Arnegard	McKenzie		1																	A. B. Waterman.
Ashley	McIntosh	2,001	16	56.4	− 0.5	98[e]	5	25[e]	25	56[e]	0.94	+ 0.01	0.34	0	3					R. C. Miles.
Beach	Golden Valley	2,576	7	57.0		97[b]	4	19[b]	25	48[b]	1.74		0.62	0	5	17	8	5	se.	D. J. Steiner.
Belfield	Stark	2,583	2								1.20		0.70	0	4	23	1	6	w.	E. W. Russell.
Berthold Agency	McLean	2,082	19	58.0	+ 0.4	101	4	23	21	54	1.06	− 0.42	0.58	T.	6	16	10	4	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	39	59.0	+ 1.9	100	5	32	21	40	2.29	+ 1.10	1.11	T.	7	10	15	5	e.	U. S. Weather Bureau.
Buford	Williams	1,944	34	58.3	+ 2.5	98	5	28	21	46	0.76	− 0.22	0.50	0	3	17	6	7	nw.	C. H. McCune.
Carson	Morton		1	58.2		98	5	23	21	47	1.05		0.46	0	5	20	7	3	s.	D. L. Basquin.
Dickinson	Stark	2,543	21	57.6	+ 1.0	97	4	27	21	49	0.94	− 0.15	0.36	1.0	6	12	14	4	se.	L. R. Waldron.
Edgeley	La Moure	1,468	12	58.2	+ 0.6	93	1	17	22	43	2.56	+ 0.65	2.20	0	5	13	4	13	nw.	O. A. Thompson.
Epping	Williams	2,224	5								1.97		1.33	7.0	3	25	2	3	s.	M. E. Uggen.
Fullerton	Dickey	1,439	15	58.4	+ 2.0	96	5	20	22	41	0.98	− 1.31	0.74	0	3	18	5	7	nw.	F. O. Allin.
Garrison	McLean	1,901	18	57.2	+ 0.3	96	5	27	21	46	1.47	+ 0.12	0.58	0	6	9	14	7	ne.	G. L. Robinson.
Haley	Bowman	2,260	5	60.6		106	5	26	22	54	1.80		0.55	T.	6	19	6	5	nw.	A. O. Lawrence.
Hettinger	Adams	2,253	5																	W. R. Lanxon.
Howard (near)	Divide	2,275	4	54.2		96	5	20	24	46	1.01		0.68	2.2	3	10	11	9	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	21	56.1	− 0.6	92	6	26	22	46	2.08	+ 0.54	0.98	0	6	12	9	9	nw.	Thos. Pettigrew.
Krem	Mercer																			C. M. Janzen.
Lamoine	Kidder		5	56.2		93	5	26	21†	47	4.33		2.14	T.	7	17	5	8	nw.	E. V. Virgin.
McHenry (near)	Eddy	1,509	3																	P. E. Truden.
Marmarth (near)	Bowman		4	57.8		94	4	27	25	44	2.72		1.00	1.5	10	15	6	9	se.	S. P. Grane.
Marstonmoor	Stutsman		4	55.2		90[b]	6	22[b]	22	44[b]	2.16		0.86	T.	6				sw.	H. H. McCumber.

TABLE 1.—*Climatological data for September, 1913. District No. 6*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Sky.				Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
***North Dakota*—Contd.**																				
Medora	Billings	2,225	19	50.0	− 7.5	95	1	8	25	68									nw.	H. Steadman.
Melville	Foster	1,590	15	56.1[i]	− 0.1	93[i]	6	27[i]	22	45[i]	2.23	+ 0.89	1.15	0	5					J. P. Kidder.
Mott	Hettinger	2,424	6	56.8	.....	96	6	27	20	48	1.27	.....	0.53	0	6	13	12	5	nw.	O. H. Opland.
Napoleon	Logan	1,955	21	56.2	− 0.7	102	5	23	21	52	1.75	+ 0.45	0.75	0	6	12	4	14	e.	C. J. Hoof.
New England	Hettinger	2,400	19	59.4	+ 3.5	98	4	27	20†	48	.....	.....	.....	.....	.....	20	5	5	nw.	J. M. Connolly.
New Rockford	Eddy	1,531	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. V. M. Sundberg.
New Salem	Morton	2,163	8	61.0	.....	103	5	28	21	51	0.71	.....	0.35	1.0	5	22	6	2	se.	J. Christiansen.
Orange	Adams	.....	4	57.6	.....	97	4†	27	21	47	1.22	.....	0.35	0	6	16	11	3	nw.	J. E. Goforth.
Ranger	Billings	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.72	.....	0.85	T.	7	23	3	4	nw.	R. E. Sheriff.
Ronda	Mercer	.....	.....	58.8	.....	95	5	26	20	44	0.82	.....	0.47	T.	5	13	11	6	nw.	H. A. Crandall.
Steele	Kidder	1,857	16	61.6	+ 4.2	96	5	32	23	33	0.83	− 0.37	0.65	0	4	16	11	3	se.	H. S. Wood.
Turtle Lake	McLean	.....	1	56.0	.....	99	5	27	22	43	1.19	.....	0.39	3.0	7	14	7	9	ne.	E. G. Ranum.
Washburn	....do	1,734	15	59.0	+ 0.9	99	5	30	21	42	1.37	+ 0.19	0.50	T.	4	11	16	3	w.	W. R. Peterson.
Williston	Williams	1,875	34	57.2	− 2.3	96	5	28	21	43	1.07	+ 0.16	0.54	T.	5	12	9	9	se.	U. S. Weather Bureau.
South Dakota.																				
Aberdeen	Brown	1,300	23	61.6	+ 2.7	104[a]	1	25	22	48[a]	1.15	− 0.70	0.60	0	8	19	0	11	s.	D. G. Gallett.
Academy	Charles Mix	.....	14	65.6	+ 2.5	102	5	32	25	37	1.53	− 0.03	0.33	0	8	17	6	7	s.	I. T. Lothrop.
Alexandria	Hanson	1,352	25	65.6	+ 3.6	104	5	26	22	54	1.42	+ 0.14	0.47	0	5	20	7	3	nw.	C. H. Stillwell.
Ardmore	Fall River	3,557	2	61.1	.....	97	7	27	25	41	1.50	.....	0.85	0	5	16	3	11	nw.	F. L. Kelso.
Armour	Douglas	1,521	18	64.2	+ 1.4	102[a]	1†	28[a]	26	46[a]	1.83	− 0.20	0.60	0	4	14	8	8	s.	T. J. Markey.
Bellefourche	Butte	3,000	5	59.0	.....	96	4	26	24	53	2.57	.....	2.13	0	5	9	14	7	nw.	U. S. Reclamation Service.
Blunt	Hughes	1,621	.....	.....	.....	.....	.....	.....	.....	.....	1.07	.....	0.80	0	2	14	10	6	se.	James A. Howard.
Britton	Marshall	1,354	.....	60.6	.....	104	1	25	21	44	1.24	.....	0.43	0	8	16	3	11	s.	W. S. Given.
Brookings	Brookings	1,636	24	61.4	+ 1.8	98	1†	17[a]	22	41[a]	1.55	− 0.51	0.64	0	5	20	4	6	sw.	Experiment Station.
Bryant	Hamlin	1,846	1	.....	.....	.....	.....	.....	.....	.....	0.71	.....	0.27	0	4	11	14	5	s.	E. D. Landon.
Camp Crook	Harding	3,000	20	58.0	− 0.6	98	5	26	25	45	1.79	+ 0.66	1.07	T.	6	18	8	4	se.	U. S. Forest Service.
Canton	Lincoln	1,248	18	62.7	+ 0.8	102	4	18	22	47	0.99	− 1.43	0.63	0	3	25	3	2	se.	John H. Holsey.
Castlewood	Hamlin	1,685	8	60.4	.....	99	5†	17	22	40	1.24	.....	0.31	0	8	12	8	10	s.	M. N. Bradley.
Centerville	Turner	1,229	16	64.8	.....	103	4†	23	22	44	0.94	− 1.78	0.58	0	5	10	14	6	se.	Frank Williams.
Chamberlain	Brule	1,363	14	63.8[d]	− 0.3	101[d]	5†	30[d]	25	40[d]	0.54	− 0.67	0.54	0	1	.....	.....	.....	se.	W. B. Van Horn.
Clark	Clark	1,779	21	61.0	+ 2.0	99	1†	22	22	40	1.86	− 0.56	1.18	0	6	8	16	6	se.	O. H. La Craft.
Cottonwood	Stanley	2,414	5	65.6	.....	104	6	37[b]	25	43[b]	1.15	.....	0.30	0	7	14	10	6	nw.	Experiment Station.
Custer	Custer	5,316	1	.....	.....	.....	.....	.....	.....	.....	2.58	.....	1.64	0	5	19	6	5	sw.	R. P. Imes.
Daviston	Perkins	.....	3	59.8	.....	100	4†	30	22	45	2.10	.....	1.06	.....	5	16	8	6	nw.	Dyson Byers.
Deadwood	Lawrence	4,535	4	56.6	.....	89	3	27	25	38	3.53	.....	2.50	0.2	6	21	2	7	.....	R. E. Grimshaw.
Deerfield	Pennington	6,000	4	.....	.....	.....	.....	.....	.....	.....	2.47	.....	1.26	T.	9	17	7	6	sw.	Frank E. Miller.
De Smet	Kingsbury	1,726	20	61.9	+ 2.1	102	5	21	22	43	0.82	− 1.14	0.32	0	5	10	13	7	s.	W. E. White.
Dowling	Stanley	2,250	4	62.1	.....	102	5	28	25	52	1.90	.....	1.60	0	3	18	7	5	se.	M. P. Dowling.
Dumont	Lawrence	6,195	4	.....	.....	.....	.....	.....	.....	.....	4.02	.....	1.63	T.	8	16	8	6	sw.	A. B. Wood.
Eagle Butte	Dewey	2,415	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. F. Dankenbring.
Eales	Potter	.....	2	.....	.....	.....	.....	.....	.....	.....	1.12	.....	0.84	0	5	15	8	7	se.	A. H. Peterson.
Elk Mountian	Custer	4,700	4	.....	.....	.....	.....	.....	.....	.....	2.98	.....	1.79	T.	4	13	7	10	se.	James E. Blaine.
Ellingson	Perkins	.....	1	58.6	.....	98	4	27	21	46	1.17	.....	0.57	T.	5	15	12	3	se.	Carl G. Moen.
Eureka	McPherson	1,884	4	60.5	.....	102	5	22	21	44	0.54	.....	0.24	0	6	7	19	4	se.	Experiment Station.
Fairfax	Gregory	.....	9	65.3	.....	100	4†	27	25	41	1.70	.....	1.00	0	6	22	5	3	s.	U. G. Stevenson.
Faith	Meade	2,560	.....	61.8	.....	99	5	32	25	49	1.07	.....	0.90	T.	5	4	19	7	se.	Robert R. Saul.
Faulkton	Faulk	1,595	18	62.3	+ 2.4	104	5	21	22	45	0.38	− 1.05	0.20	0	6	16	7	7	s.	Miss Belle Talcott.
Flandreau	Moody	1,565	23	62.6	+ 1.5	98	1†	19	22	42	2.31	+ 0.07	0.80	0	6	9	10	11	n.	D. R. McLean.
Forestburg	Sanborn	1,231	21	63.6	+ 1.5	105	5†	23	22	47	1.02	− 0.74	0.56	T.	6	14	12	4	se.	S. S. Judy.
Fort Meade	Meade	3,624	30	61.2	+ 0.9	94	5	21	24	35	0.68	− 0.28	0.64	0	2	5	25	0	s.	Post Hospital.
Goldfield	....do	3,000	.....	62.2	.....	102	5	31	25	50	3.17	.....	2.30	T.	8	6	18	6	nw.	A. M. Alexander.
Greenmont	Lawrence	6,430	4	.....	.....	.....	.....	.....	.....	.....	2.62	.....	1.20	3.0	7	13	13	4	w.	H. C. Hoffbuhr.
Greenwood	Charles Mix	.....	19	66.3	+ 1.1	101	5	30	25	41	1.94	− 0.10	1.00	0	5	14	13	3	nw.	T. C. Williamson.
Hardingrove	Stanley	.....	1	65.3	.....	101	5	36	21†	42	1.65	.....	1.11	0	5	12	9	9	nw.	Mrs. Laura Sinclair.
Hardy Ranger Station	Lawrence	6,600	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rufus J. Pilcher.
Harveys Ranch	....do	6,282	3	.....	.....	.....	.....	.....	.....	.....	2.75	.....	1.70	T.	5	15	5	10	nw.	Jerome Harvey.
Hermosa	Custer	3,278	7	61.2	.....	99	5†	27	24	45	3.84	.....	2.83	0	5	18	11	1	s.	S. M. Booth.
Highmore	Hyde	1,890	20	64.0	+ 1.2	106	5	26	25	43	0.53	− 0.89	0.22	0	5	13	6	11	s.	Experiment Station.
Hopewell	Stanley	.....	3	64.6	.....	110	5	32	25	48	1.03	.....	0.68	0	4	14	13	3	.....	E. R. Myers.
Hot Springs	Fall River	3,443	.....	62.8	.....	96	6	27	25	40	2.80	.....	1.50	T.	5	18	6	6	nw.	John S. Goodrell.
Howard	Miner	1,564	21	60.9[d]	− 0.3	98[d]	5†	25[d]	25†	46[d]	1.48	− 0.70	0.46	0	7	.....	.....	.....	s.	J. J. Cox.
Howell	Hand	.....	11	62.3	+ 2.2	110	5	20	22	55	0.51	− 0.92	0.13	0	8	16	9	5	se.	M. A. Shuster, jr.
Huron	Beadle	1,306	31	62.2	+ 2.6	102	5	25	22	39	0.63	− 1.06	0.35	0	6	8	11	11	s.	U. S. Weather Bureau.
Ipswich	Edmunds	1,530	16	61.4	+ 3.0	106	5	20	22	50	0.90	− 1.09	0.32	0	7	9	16	5	s.	H. J. Dailey.
Kadoka	Stanley	2,467	4	64.4	.....	102	6	27	25	44	1.53	.....	0.64	0	8	8	8	14	se.	Glenn H. Shaw.
Kennebec	Lyman	1,689	20	65.8[d]	+ 3.2	105[b]	5	28	25	44[b]	0.61	− 0.37	0.22	0	3	19	5	6	.....	R. C. Van Horn.
Kimball	Brule	1,788	27	64.0	+ 2.2	101	4†	28	25	45	0.53	− 0.78	0.18	0	6	18	7	5	se.	G. D. Rose.
La Delle	Spink	1,400	16	63.0	+ 2.0	105	5†	18	22	43	0.71	− 1.75	0.30	0	5	17	9	4	se.	E. L. Ebbert.
Lead	Lawrence	5,200	4	56.8	.....	87	4	19	25	32	3.24	.....	2.35	T.	8	12	10	8	.....	E. F. Irwin.
Marion	Turner	1,447	12	63.8	+ 1.3	102	5	25	22	41	1.64	− 1.30	0.75	0	3	14	15	1	nw.	M. H. Dains.
Marston	Sully	.....	5	60.9	.....	102	5	26	25	50	1.15	.....	0.95	0	3	9	15	6	se.	J. W. Kozel.
Meadow	Perkins	.....	.....	57.9	.....	96	5	30	20	42	0.93	.....	0.56	T.	4	16	7	7	se.	Hillard Wybenga.
Mellette	Spink	1,300	18	62.4	+ 1.3	104	5	24	22	56	0.53	− 1.14	0.23	0	6	14	10	6	se.	Frank A. Howe.
Menno	Hutchinson	1,325	16	65.4	+ 2.3	105[a]	5	27[a]	21	45[a]	1.48	− 0.83	0.80	0	4	17	9	4	se.	J. S. Headley.
Milbank	Grant	1,148	22	59.0	− 1.4	100	1†	19	22	46	1.92	+ 0.06	0.64	0	8	15	7	8	nw.	Miss Mary Patridge.
Mitchell	Daviston	1,312	19	62.8	+ 0.9	102	5	28	22	47	0.92	− 1.21	0.20	0	6	21	7	2	s.	C. W. Downey.
Mobridge	Walworth	.....	2	63.5	.....	107	5	24	25	50	0.79	.....	0.54	0	4	15	11	4	se.	Thomas J. Morris.
Murdo	Lyman	2,300	5	64.8	.....	103	5†	30	24	42	0.50	.....	0.50	0	1	25	3	2	nw.	L. C. Bode.
Oelrichs	Fall River	3,339	21	61.9	+ 1.5	101	6	25	24†	46	2.30	+ 1.18	1.40	0	3	11	18	1	sw.	J. E. Strouse.
Onaka	Faulk	1,600	1	.....	.....	.....	.....	.....	.....	.....	1.18	.....	0.26	0	7	18	11	1	nw.	H. P. Camp.
Onida	Sully	1,921	.....	.....	.....	.....	.....	.....	.....	.....	0.90	.....	0.76	0	3	17	9	4	nw.	E. E. Heywood.
Orman	Butte	2,920	7	61.8	.....	97	4†	32	25	47	2.78	.....	1.87	0	8	21	2	7	nw.	U. S. Reclamation Service.
Ottumwa	Stanley	.....	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. W. Bretz.
Parkston	Hutchinson	1,400	1	.....	.....	.....	.....	.....	.....	.....	1.37	.....	0.42	0	4	.....	.....	.....	.....	W. C. Rempfer.
Pearl Creek	Beadle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Charles Miner.
Pierre	Hughes	1,572	21	65.0	+ 2.2	104	5	33	25	45	0.56	− 0.55	0.28	0	4	12	12	6	e.	U. S. Weather Bureau.
Pine Ridge	Shannon	.....	7	61.3	.....	97	5†	24	21†	45	1.25	.....	0.62	0	7	12	10	8	s.	W. A. Spencer.
Plankinton	Aurora	1,528	19	.....	.....	.....	.....	.....	.....	.....	1.11	− 0.76	0.52	0	6	12	12	6	nw.	W. G. Andrews.
Pollock	Campbell	.....	7	61.2	.....	104	5	24	21	53	0.63	.....	0.20	0	8	9	11	10	se.	J. H. Jones.
Rapid City	Pennington	3,251	25	60.1	+ 1.0	94	3	30	25	41	5.07	+ 3.81	4.80	T.	7	14	5	11	w.	U. S. Weather Bureau.
Redfield	Spink	1,295	15	62.6	+ 3.7	108	5	24	29	48	0.62	− 1.34	0.38	0	5	17	1	12	ne.	A. S. Hall.
Rochford	Pennington	5,228	3	.....	.....	.....	.....	.....	.....	.....	2.37	.....	1.87	T.	4	21	4	5	nw.	Mrs. M. E. Deffenbaugh.

TABLE 1.—*Climatological data for September, 1913. District No. 6*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, 0.01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
***South Dakota*—Contd.**																				
Rosebud	Todd	2,600	19	62.1	+ 0.6	96	5†	26	26	40	0.95	− 0.07	0.49	0	5	12	14	4	sw.	W. M. Ege.
Roslyn	Day		7	58.8	.....	99	1	22	22	39	1.47	.....	0.55	0	4	16	4	10	s.	O. O. Floren.
Selby	Walworth		5																	Robert Nusz.
Sioux Falls	Minnehaha	1,400	22	63.9	+ 1.7	104	4†	25	21	44	1.30	− 1.01	0.70	0	7	16	8	6	s.	J. H. Bechtold.
Sisseton	Roberts	1,202	7																	George Gray.
Sorum	Perkins		2	58.0	.....	96	6	30	25	52	2.00	.....	1.16	T.	4	10	9	11	nw.	M. S. Eberhart.
Spearfish	Lawrence	3,647	24	59.5	− 0.5	92	3	30	24	38	3.70	+ 2.34	2.78	0	5	13	9	8	nw.	A. E. Johnson.
Stephan	Hyde	1,840	9	62.6	+ 1.8	102	6	25	22	50	0.28	.....	0.20	0	2	16	7	7	se.	Rev. A. Mattingly.
Tama	Meade		3																	E. J. Lehman.
Timber Lake	Dewey	2,163	1			104	5				1.21	.....	0.93	0	4	4	20	6	s.	W. E. Prann.
Tyndall	Bonhomme	1,418	16	64.8	+ 0.7	102	4	28	22	40	1.55	− 0.09	0.93	0	6	18	9	3	se.	F. F. Chladek.
Vale	Butte	2,765	5	60.4	.....	96	4	29	21	50	3.31	.....	2.42	T.	8	12	10	8	se.	U. S. Reclamation Service.
Vermilion	Clay	1,222	12	66.2	+ 2.0	102	5	29	22	37	0.93	− 2.99	0.31	0	6	14	8	8	s.	Prof. E. C. Perisho.
Waters Ranch	Lawrence	4,000	3								4.30		2.97	T.	7	16	5	9	nw.	George Waters.
Watertown	Codington	1,735	19	58.8	+ 0.4	98	1†	22	22	47	2.28	+ 0.41	1.46	0	8	12	8	10	se.	Robert Q. Wood.
Wentworth	Lake		20	61.0	+ 0.2	97	5	25	22	39	3.11	+ 0.54	1.20	0	5	21	5	4	s.	R. C. Zimmerman.
White Lake	Aurora	1,646	4								0.73	.....	0.21	0	4	23	5	2	s.	Mrs. G. A. Rogers.
Winner	Tripp	2,000	1																	J. W. Barnum.
Wood	Mellette			66.6	.....	104	5	27	25	43	1.42	.....	0.46	0	6	15	4	11	s.	Fred E. Kirch.
Yankton	Yankton	1,234	39	64.7	+ 1.4	101	4	30	22	32	1.18	− 1.27	0.65	0	7	6	15	9	e.	U. S. Weather Bureau.
Minnesota.																				
Pipestone	Pipestone	1,710	12	62.4	+ 2.9	97	1	23	22	39	3.07	+ 0.18	1.20	0	8	20	5	5	s.	A. L. Doan.
Colorado.																				
Arriba	Lincoln	5,243	7	57.4	.....	89	3	23	25	43	0.61	.....	0.19	0	6	20	7	3	s.	C. A. Creel.
Auldhurst	Teller	8,500	3								2.50	.....	0.74	3.0	15	5	15	10	s.	Harry Dunmire.
Bennett (near)	Arapahoe	5,484	5								1.91	.....	0.48	T.	8	24	2	4	se.	J. F. Egelhoff.
Boulder	Boulder	5,347	17	59.9	− 3.1	85	6†	30	25	40	2.62	+ 0.90	0.53	T.	10	2	26	2	e.	Prof. J. A. Hunter.
Burlington	Kit Carson	4,160	10	61.2	− 4.0	95	7	27	24	39	1.63	+ 0.17	0.65	0	6	12	13	5	se.	W. P. Davis.
Cassells	Park	8,445	3								2.00	.....	0.50	4.5	11	14	10	6	e.	Harriet M. Cassell.
Castle Rock	Douglas	6,220	21	52.8[b]	− 6.7	85[c]	7	23	20†	50[c]	2.51	+ 1.32	0.65	T.	9	11	6	13	se.	Thos. P. Vaughan.
Cheesman	Jefferson	6,890	10	55.1	− 3.3	83	5	28	27	47	1.99	+ 0.37	0.42	T.	10	6	16	8	nw.	Denver Union Water Co.
Cheyenne Wells	Cheyenne	4,279	21	61.6[c]	− 2.9	94[c]	1†	28[c]	25	39[c]	1.23	− 0.16	0.75	0	4	21[c]	4[c]	2[c]	s.	J. W. Adams.
Denver	Denver	5,272	41	59.2	− 3.5	88	6	30	24	40	2.64	+ 1.75	0.90	4.0	13	13	13	4	s.	U. S. Weather Bureau.
Edgewater	Jefferson	5,450	5	57.3	.....	88	5†	27	26	49	2.06	.....	0.63	1.0	11	14	10	6	.....	N. P. Levin, M. D.
Estes Pk. Fish Htchy	Larimer	8,000	4								3.49	.....	1.05	12.0	11	3	10	17	w.	G. H. Thomson.
Fort Collins	....do	4,985	34																	Colorado Agricultural College.
Fort Lupton	Weld	4,907	3								2.53	.....	0.53	2.0	9	13	8	9	e.	C. B. Benedict.
Fort Morgan	Morgan	4,319	15	58.4	− 4.4	94	1	30	26	54	1.92	+ 0.93	0.61	0	5	20	7	3	ne.	Great Western Sugar Co.
Frances	Boulder	9,300	8	47.8	.....	72	1	15	25	30	4.88	.....	1.90	7.5	16	6	22	2	w.	C. W. Barry.
Frys Ranch	Larimer	7,500	3	49.8	.....	76	18	14	25	45	2.36	.....	1.02	8.0	13	12	5	13	w.	Norman W. Fry.
Georgetown	Clear Creek	8,550	11								4.47	+ 3.48	0.76	7.5	17	7	10	13	.....	H. L. Corbett.
Greeley	Weld	4,649	22																	Kenneth Shaw.
Grover (near)	....do	5,076	9	55.8	.....	90	1	23	25	51	2.46	.....	1.00	T.	9	13	5	12	se.	D. M. Porter.
Hartsel	Park	8,892	4								2.50	.....	0.62	T.	11	4	8	18	nw.	Emily Kleinknecht.
Hawthorne	Boulder	6,000	4								3.68	.....	1.14	1.0	9	17	11	2	.....	B. E. Chesebro.
Holyoke (near)	Phillips	3,745	17	57.2	− 5.1	97	2	14	15	63	1.35	+ 0.17	0.31	0	8	18	6	6	se.	A. C. Cauble.
Idaho Springs	Clear Creek	7,543	13	51.9	− 3.2	79[a]	6	23[a]	25	43[a]	3.10	+ 1.89	1.29	4.0	14	3	25	2	e.	J. J. Willis.
Julesburg	Sedgwick	3,465									1.34	.....	0.94	0	3	21	9	0	nw.	Great Western Sugar Co.
Kersey	Weld	4,571									2.22	.....	0.52	0	6	17	6	7	w.	Do.
Laporte	Larimer	5,053	22																	P. A. Taft.
Le Roy (near)	Logan	4,380	24								1.08	− 0.12	0.55	T.	10	14	12	4	se.	Chas. Green.
Longmont	Boulder	4,950	12																	Great Western Sugar Co.
Longs Peak (near)	Larimer	8,600	18																	Enos A. Mills.
Merino	Logan										1.55	.....	0.60	0	3	15	14	1	.....	Great Western Sugar Co.
Moraine	Larimer	7,775	23	47.9	− 4.6	82	3†	14	25	47	0.89	− 0.47	0.47	8.0	2	12	3	15	ew.	Chas. A. Chapman.
Platte Canon	Jefferson	5,492	14																	Denver Union Water Co.
St. Cloud	Larimer	7,750	10								3.58	+ 1.88	2.24	7.0	14	8	14	8	w.	Miss Emma S. Cornelison.
Sedgwick	Sedgwick	3,539	5	60.0	.....	95	6	20	26	50	5.06	.....	1.10	0	9	11	15	4	ne.	Edwin Lewis, M. D.
Silver Lake	Boulder	10,500	3								5.23	.....	1.29	10.0	17	6[a]	14[a]	9[a]	w.	City Engineer, Boulder.
Spicer (near)	Jackson	8,700	3																	Frank W. Murphy.
Sterling	Logan	3,892	4	55.3	.....	91	4	15	26	55	1.56	.....	0.87	0	7	12	6	12	nw.	Great Western Sugar Co.
Waterdale	Larimer	5,206	10	59.0	− 1.4	90[a]	6	27[a]	25	47	1.23	− 0.24	0.70	0	3				.....	P. H. Boothroyd.
Wray	Yuma	3,512	17	62.3	− 2.3	98	1	24	26	49	1.08	− 0.25	0.31	0	6	17	10	3	s.	J. C. Tuomey.
Yuma	....do	4,138	22								2.44	+ 1.43	1.16	0	7	18	6	6	se.	Matthew Harr.
Nebraska.																				
Ainsworth	Brown	2,521	8	61.8	.....	100	5	28	25	44	2.19	.....	1.53	0	5	4	20	6	s.	John M. Cotton.
Albion	Boone	1,747	16	63.0	+ 0.6	102	6	26	26	46[a]	1.86	− 0.65	0.59	0	7	18	2	10	s.	F. M. Weitzel.
Alliance	Boxbutte	3,968	19	56.4	− 4.0	91	7	19	25	59	0.70	− 0.15	0.50	0	2	22	8	0	sw.	J. A. Keegan.
Alma	Harlan	1,939	18	65.0	− 1.2	105	7	26	26	43	2.63	+ 0.31	0.92	0	10	17	9	4	s.	W. A. Sharpnack.
Arcadia	Valley	2,186	15								2.74	+ 0.04	1.76	0	5	17	9	4	se.	J. L. Owen.
Arden	Wheeler		3								1.79	.....	0.98	0	7	21	7	2	s.	A. E. Johns.
Ashland	Saunders	1,100	31	68.1	+ 1.0	105	5	33	22	35	3.67	+ 0.68	1.57	0	12	14	10	6	se.	Dr. A. S. von Mansfelde.
Ashton	Sherman	2,061	21								2.53	+ 0.09	0.85	0	10	19	1	10	sw.	F. Rein.
Atkinson	Holt	2,108	8	63.5	.....	99	4†	27	25	41[b]	1.10	.....	0.52	0	3				.....	C. J. Wilson.
Auburn	Nemaha	1,051	21	66.6	− 0.3	104	5	33	22	53	4.61	+ 1.31	1.38	0	12	18	3	9	s.	J. R. Huffman.
Aurora	Hamilton	1,792	20								1.86	− 1.49	1.23	0	4				sw.	A. D. Travis.
Beatrice	Gage	1,235	24	65.7	− 1.3	98	1	35	26	38	3.00	+ 0.08	0.85	0	6	19	2	9	s.	H. E. Palmer.
Beaver City	Furnas	2,147	23	67.2	− 0.1	102	2†	28	26	41	1.90	+ 0.06	0.67	0	7	15	9	6	se.	T. M. Davis.
Bellevue	Sarpy	1,210	32	67.2	+ 1.8	102	4	35	22	31	5.14	+ 1.51	2.52	0	12	18	6	6	ne.	A. A. Tyler.
Benkelman	Dundy	2,968	18								2.54	+ 0.76	1.25	0	5				.....	R. D. Druliner.
Bertrand	Phelps	2,515	6								0.95	.....	0.35	0	9	22	4	4	se.	W. F. Dobbin.
Blair	Washington	1,122	18	65.8	+ 1.1	103	4	27	22	39	6.05	+ 2.57	1.98	0	10	21	4	5	sw.	D. C. Van Deusen.
Blake	Garfield		1								2.18	.....	1.03	0	9	18	9	3	s.	H. C. Mead.
Bloomfield	Knox		7	64.9	.....	103	5	29	22†	41	1.31	.....	0.67	0	5	9	17	4	s.	Dr. L. C. Bleick.
Bradshaw	York	1,715	15								3.86	− 0.64	1.50	0	10	15	11	4	.....	E. C. Roggy.
Brewster	Blaine		1								0.69	.....	0.15	0	10	15	12	3	nw.	W. S. Turnbull.
Bridgeport	Morrill	3,658	17	61.8[a]	+ 0.1	96	6	19	25	48[a]	1.07	0.00	0.52	0	4				se.	R. H. Willis.
Broken Bow	Custer	2,477	19	61.6	− 1.2	98	5†	24	25	45	2.33	+ 0.15	1.11	0	6	16	0	14	s.	R. V. McCall.
Bruning	Thayer	1,583	3								2.11	.....	1.52	0	6	18	5	7	s.	Henry Middendorf.
Burge	Cherry	2,674	....	63.5	.....	103	4	22	26	46	T.	.....	T.	0	0	20	5	5	s.	H. A. Davis.
Burwell	Garfield	2,180	19								2.91	+ 0.73	2.18	0	7				.....	W. L. McMullen.

TABLE 1.—*Climatological data for September, 1913. District No. 6*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, 0.01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Nebraska—Continued.																				
Butte	Boyd		8	64.6	.....	102	4†	26	25	42	1.30	.....	0.47	0	6	14	14	2	s.	W. Whitla.
Cairo	Hall	1,951	5								2.84	.....	0.92	0	7					Elliott Harrison.
Callaway	Custer	2,555	17	64.8	+ 2.2	100	6†	26	26	48	1.80	− 0.20	0.48	0	5	16	7	7	s.	J. H. Evans.
Cambridge	Furnas	2,258	7	64.4	.....	101	3†	23	26	49	1.18	.....	0.40	0	5	20	5	5	s.	Chas. Jensen.
Columbus	Platte	1,442	21	63.8	− 0.5	100	5†	30	25†	44	2.16	− 0.72	0.63	0	9	15	10	5	se.	A. L. Rush.
Crete	Saline	1,368	30	67.4	+ 1.0	103	5	36	21	32	3.92	+ 1.21	2.00	0	5	18	4	8	se.	Doane College.
Culbertson	Hitchcock	2,565	27	62.2	− 3.0	99	6	25	26	45	1.63	+ 0.07	0.40	0	10	16	5	9	ne.	Homer L. Nye.
Curtey	Sioux		5								1.36	.....	0.70	0	5					A. E. Hann.
Curtis	Frontier	2,553	17	63.0	− 2.0	98	4	26	26	43	2.08	− 0.35	0.77	0	7	17	7	6	se.	Dr. S. R. Razee.
Dalton	Cheyenne	4,273	1								2.15	.....	0.70	0	4					J. C. Frandsen.
David City	Butler	1,619	26	65.6	+ 1.6	98	6	34	25	29	2.82	+ 0.19	1.04	0	8	11	14	5	ne.	S. Clingman.
Du Bois	Pawnee	1,074	9								6.51	.....	2.24	0	10	18	3	9	se.	O. M. Backus.
Dumas	Garfield		6	61.7	.....	98	6†	28	25†	40a	2.71	.....	1.19	0	8	22	7	1	s.	Emile Raes.
Elm Creek	Buffalo	2,268	6								1.02	.....	0.30	0	5					E. L. Sutton.
Elsie	Perkins	3,382	5								3.39	.....	1.25	0	10					J. F. Brittain.
Ericson (near)	Garfield	2,029	22								1.62	− 0.60	0.65	0	5	19	8	3	se.	J. A. Bodyfield.
Ewing	Holt	1,888	23	65.2	.....	109	5	28	25†	49	1.94	− 0.19	1.14	0	9					G. H. Benson.
Exeter	Fillmore	1,607	1								2.59	.....	1.46	0	7					Frank Ainsworth.
Fairbury	Jefferson	1,316	38	68.0	+ 0.6	105	6	34	26	39	3.56	+ 0.68	1.72	0	8	15	7	8	se.	W. F. Cramb.
Fairmont	Fillmore	1,641	20	64.8	− 0.6	103	6	32	26	37	3.20	+ 0.34	0.88	0	11	12	9	9	s.	C. B. & Q. R. R. Co
Falls City	Richardson	898	18	69.1	+ 0.5	107	5	34	26	39	3.92	+ 0.14	0.98	0	9	19	7	4	se.	Dr. J. C. Yutzy.
Fort Robinson	Dawes	3,764	30	59.0	− 1.5	94	6	20	25	47	1.72	+ 0.59	0.60	0	7	15	9	6	sw.	Post Surgeon.
Franklin	Franklin	1,820	21	64.1	− 2.5	109	7	28	26†	45	3.20	+ 0.68	1.09	0	9	11	9	10	se.	A. R. Peck.
Fremont	Dodge	1,203	33	65.8	+ 0.7	106	6	28	22	48	3.06	+ 0.21	1.34	0	5	12	7	11	nw.	Ernest Hahn.
Fullerton	Nance	1,629	12	64.6	.....	102	6	28	26	45a	3.19	− 0.46	1.54	0	6	19	9	2	nw.	Dr. F. W. Johnson.
Geneva	Fillmore	1,633	24	67.6	+ 1.4	103	6†	34	26	36	2.93	+ 0.14	1.49	0	9	13	12	5	se.	F. M. Flory.
Genoa	Nance	1,584	38	64.8	+ 0.4	106	1	31	22	48	3.48	+ 0.38	1.35	0	8	18	6	6	se.	F. W. Parsons.
Gordon	Sheridan	3,550	12	59.0i	.....	96i	1	21i	26	53i	2.18	+ 1.19	1.15	0	6					G. F. Williams.
Gosper	Gosper		11								2.64	+ 0.19	0.95	0	9	17	7	6	s.	E. H. Stoll.
Gothenburg	Dawson	2,557	20	63.9	− 0.7	100	4	23	26	43	0.95	− 1.06	0.42	0	7	15	11	4	se.	S. S. Kaufman.
Grand Island	Hall	1,860	22	65.9	+ 0.6	103	6	32	26†	36	1.04	− 1.67	0.25	0	7	13	8	9	s.	E. A. Barnes.
Grant	Perkins	3,405	10	62.0	.....	104	1	24	25	50	2.22	+ 0.53	0.42	0	9	17	4	9	.....	Anson K. Holmes.
Greeley	Greeley	2,021	20	62.4	.....	99	4	28	26	35	1.39	− 0.67	0.69	0	7	14	14	2	se.	W. E. Morgan.
Guide Rock	Webster	1,646	14								2.75	− 0.60	1.50	0	5	12	9	9	s.	J. S. Marsh.
Haigler	Dundy	3,258	20								1.93	+ 0.75	0.76	0	5					J. L. Pember.
Halsey	Thomas	2,695	11	63.0	− 1.1	99	4	25	26	42a	1.25	− 0.40	0.54	0	5	21	6	3	se.	Bureau of Forestry.
Hartington	Cedar	1,309	23	64.4	+ 1.7	105	5	29	22	41	1.42	− 1.36	0.58	0	8	15	8	7	nw.	D. E. Ewing.
Harvard	Clay	1,812																		Bert Gregg.
Hastings	Adams	1,932	24	64.7	− 0.6	103	7	32	26†	39	2.03	− 0.72	0.95	0	6	20	7	3	sw.	C., B. & Q. R. R. Co.
Hayes Center	Hayes		19	64.2	.....	100	6	30	26†	39	2.41	+ 0.43	1.05	0	8	25	2	3	s.	Jos. M. Crosby.
Hay Springs	Sheridan	3,821	28	60.2	+ 0.6	96	6	20	25	50	1.91	+ 0.82	0.84	0	4	10	17	3	s.	A. Kadlecek.
Hebron	Thayer	1,458	28	67.2	+ 0.4	102	6	34	26	39	3.03	+ 0.31	1.96	0	6					Dr. C. M. Easton.
Hemingford	Boxbutte	4,256	4								1.23	.....	0.58	0	6					A. S. Enyeart.
Hendley	Furnas	2,231	8								0.90	.....	0.46	0	5					T. L. Jones.
Hershey	Lincoln	2,902	2								1.33	.....	0.73	0	4	20	5	5	.....	G. F. Palmer.
Hillside	Arthur	3,484	5	60.2	.....	98	6	17	26	51	1.25	.....	0.32	0	11	18	6	6	sw.	Mrs. M. R. Lloyd.
Holdrege	Phelps	2,324	22	64.4	− 2.8	99	6	31	26	37	2.84	+ 0.74	0.93	0	8	10	13	7	s.	C., B. & Q. R. R. Co.
Hooper	Dodge	1,228	16	64.1	+ 0.2	103	5	28	21	47	1.82	− 1.83	0.73	0	7	15	5	10	nw.	Dr. W. H. Heine.
Hull (near)	Banner		3								2.30	.....	0.62	0	6	13	6	11	s.	Mrs. W. P. Miller.
Imperial	Chase	3,278	23	62.4	− 2.3	100	5†	26	26	42	1.45	+ 0.06	0.65	0	6	13	10	7	se.	Robt. Malcolm.
Kearney	Buffalo	2,146	26	66.0	− 1.1	101	6	29	25	39	1.98	− 0.72	0.55	0	7	15	10	5	s.	City Engineer.
Kimball	Kimball	4,697	24	58.2	− 2.5	90	5†	20	25	48	1.69	+ 0.64	0.85	0	4	15	12	3	nw.	F. J. Bellows.
Kirkwood	Rock		18	64.2	+ 1.5	104	4	27	25	44	0.57	− 1.58	0.15	0	6	16	10	4	s.	Mrs. C. Arter.
Kowanda	Garden		5								2.71	.....	1.08	0	8					Geo. W. Hulse.
Lexington	Dawson	2,385	24	64.0	+ 0.1	101	6	25	26	42	1.50	− 0.51	0.67	0	7	22	0	8	se.	Robt. Chadwick.
Lincoln	Lancaster	1,189	32	67.4	+ 2.2	103	5	34	22	34	3.30	+ 0.66	1.82	0	9	14	7	9	s.	U. S. Weather Bureau.
Lodgepole	Cheyenne	3,820	17	62.4	+ 1.4	96	6	21	25	47	3.85	+ 2.48	1.81	0	7	17	7	6	e.	R. T. Kidney.
Loup City	Sherman	2,067	19	62.5	− 1.3	96	6†	24	26	43	2.39	− 0.51	0.65	0	7	24	5	1	n.	Harriet Hayhurst.
Loyal	Custer																			Jas. H. Bailey.
Lynch	Boyd		18								1.30	− 0.78	0.55	0	4	22	5	3	nw.	Anton Basta.
McCook	Redwillow	2,506	17	62.5	− 3.9	99	6†	29	26†	43	1.57	− 0.24	0.62	0	8	17	13	0	se.	Lon Cone.
McCool Junction	York	1,575	17								2.46	+ 1.06	1.58	0	8					L. L. Slagel.
Madison	Madison	1,585	20	63.4	− 0.1	99	6	30	25†	34	1.45	− 1.51	0.78	0	4	18	5	7	sw.	Dr. F. A. Long.
Marquette	Hamilton	1,830	34								2.54	− 0.05	1.05	0	8					John Ellis.
Mary	Brown		3								1.22	.....	0.66	0	8	17	8	5	nw.	G. C. Stufft.
Mason City	Custer	2,257	11								2.13	− 0.44	1.75	0	5					J. A. Amsberry.
Minatare	Scotts Bluff	3,825	4								1.01	.....	0.31	0	8	20	7	3	se.	A. Kennedy.
Minden	Kearney	2,169	35	66.0	+ 1.0	103	7	31	26	37	3.15	+ 0.59	1.45	0	12	16	9	5	s.	Joel Hull.
Mitchell	Scotts Bluff	3,950	5	59.2	.....	92	6	20	25	48	1.21	.....	0.36	0	7	15	11	4	se.	U. S. Reclamation Service.
Nebraska City	Otoe	941	38	66.4	− 0.1	100	5†	30	22	40	4.34	+ 0.36	1.96	0	6	17	7	6	s.	C., B. & Q. R. R. Co.
Nelson	Nuckolls	1,683	3	67.2	.....	106	6	30	26	43	2.41	.....	1.60	0	6	19	3	8	s.	Mack I. Koser.
Norfolk	Madison	1,532	31	64.8	+ 1.3	103	6	29	26	46	2.87	− 0.08	1.37	0	7	22	3	5	s.	Dr. P. H. Salter.
North Loup	Valley	1,961	25	65.1	+ 0.8	102	6†	26	26	48	1.90	− 0.28	0.65	0	8	20	7	3	s.	W. G. Rood.
North Platte	Lincoln	2,841	39	62.8	− 0.4	97	4	27	26	41	0.90	− 0.60	0.64	0	8	17	8	5	s.	U. S. Weather Bureau.
Oakdale	Antelope	1,722	26	63.1	+ 0.5	99	6†	30	26†	36	1.54	− 0.68	0.80	0	8	16	7	7	s.	G. S. Clingman.
Omaha	Douglas	1,103	43	67.5	+ 1.7	100	5	36	22	28	3.62	+ 0.59	1.94	0	11	12	8	10	s.	U. S. Weather Bureau.
O'Neill	Holt	1,975	15								1.44	− 0.89	1.11	0	3	15	7	8	sw.	L. E. Best.
Ord	Valley	2,062	20								2.89	+ 0.29	1.30	0	10	16	8	6	s.	Jas. Milford.
Orleans	Harlan	1,993	6								2.72	.....	0.73	0	7					Jas. McGeachin.
Osceola	Polk	1,644	15	67.2	.....	102	5†	32	23	44	2.45	− 0.71	0.80	0	5	12	14	4	s.	G. T. Ray.
Oshkosh	Garden	3,393	1	60.8	.....	97	4	23	25	43	2.48	.....	1.02	0	9	15	11	4	se.	Robert Quelle.
Palisade	Hitchcock		5								1.43	.....	0.65	0	5					E. E. Young.
Pawnee City	Pawnee	1,175	18	67.4	− 0.4	105	5	32	26	39	4.00	+ 0.35	1.40	0	8	19	3	8	s.	F. A. Barton.
Paxton	Keith	3,060	6	62.1	.....	100	4	24	26	45	2.23	.....	0.98	0	7	22	3	5	s.	C. F. Coy.
Plymouth	Jefferson	1,419	9			102i	6				2.81	.....	1.93	0	4					Dora Ruppel.
Purdum	Blaine		13	62.4	− 0.2	100	4	26	26	42	1.34	− 0.39	0.51	0	8	18	6	6	se.	T. C. Jackson.
Ravenna	Buffalo	2,028	36	64.4	− 0.5	100	6†	24	26	46	2.12	− 0.04	0.68	0	8	15	9	6	s.	H. G. Smith.
Red Cloud	Webster	1,687	20	66.0	− 0.9	104	7	31	26	48	3.64	+ 0.91	1.80	0	7	13	7	10	nw.	Chas. S. Ludlow.
St. Libory	Howard	1,887	19								2.23	− 0.62	0.89	0	10	16	8	6	s.	W. I. Meader.
St. Paul	do	1,796	19	65.8	− 0.2	101	6†	29	26	42	1.90	− 0.59	0.72	0	6	19	7	4	sw.	Paul Anderson.
Santee	Knox		26	66.3	+ 1.0	106	4	31	25†	43	T.	− 2.09	T.	0	0	16	12	2	se.	A. M. MacGregor.
Schuyler	Colfax	1,357	21	66.0	.....	106	6	28	22	43	2.83	+ 0.32	0.85	0	8	16	11	3	sw.	F. W. Shonka, jr.
Scottsbluff	Scotts Bluff	3,888	25	60.3	− 1.5	95	6	21	25	52	1.27	+ 0.17	0.32	0	10	15	14	1	se.	A. B. McCoskey.
Seward	Seward	1,435	24	65.6	− 1.1	100	6†	31	26†	41	3.26	− 0.09	1.41	0	9	5	18	7	.....	C., B. & Q. R. R. Co.
Sidney	Cheyenne	4,090	21	.....	.....	.....	.....	.....	.....	.....	2.03	+ 0.84	0.75	0	7	22	5	3	se.	John P. Fischer.

TABLE 1.—*Climatological data for September, 1913. District No. 6*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Sky.				Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Nebraska—Continued.																				
Springfield	Sarpy	1,052	2	.....	.....	.....	.....	.....	.....	.....	4.70	.....	1.36	0	10	15	4	11	se.	L. A. Bates.
Springview	Keyapaha	.....	23	65.3	+ 2.0	105	4	27	25	43	0.19	− 1.13	0.10	0	3	15	10	5	sw.	C. L. Phelps.
Stanton	Stanton	1,472	22	66.3	+ 2.2	103	6	28	25†	39	2.13	− 0.80	1.20	0	3	20	7	3	sw.	Alfred Pont.
Stapleton	Logan	.....	1	.....	.....	.....	.....	.....	.....	.....	1.18	.....	0.67	0	4	.....	.....	.....	s.	F. E. Peterson.
Stratton	Hitchcock	2,804	18	.....	.....	.....	.....	.....	.....	.....	1.72	− 0.02	0.72	0	6	.....	.....	.....	.....	Miss Stella Vennum.
Superior	Nuckolls	1,574	29	.....	.....	.....	.....	.....	.....	.....	2.33	− 0.09	1.30	0	3	.....	.....	.....	.....	F. V. Bishop.
Syracuse	Otoe	1,059	21	67.2	+ 0.1	105	5	30	22	40	3.33	− 0.34	1.84	0	9	16	4	10	se.	W. N. Hunter.
Table Rock	Pawnee	1,023	24	.....	.....	.....	.....	.....	.....	.....	3.97	+ 0.54	1.21	0	10	15	6	9	se.	E. D. Howe.
Tecumseh	Johnson	1,113	35	68.0	+ 0.7	107	5	33	26	40	4.52	+.1.66	1.75	0	6	.....	.....	.....	.....	Dr. C. H. Davies.
Tekamah	Burt	1,060	24	64.2	− 1.2	101	4	27	22	54	3.75	+ 0.84	0.93	0	10	16	4	10	ne.	Dr. A. D. Nesbit.
University Farm	Lancaster	.....	30	68.0	+ 0.6	103	6†	31	22	40	3.50	+ 0.72	1.89	9	9	15	7	8	.....	S. W. Perin.
Valentine	Cherry	2,613	25	62.3	0.0	98	4	29	26	37	1.15	− 0.64	0.72	0	6	15	13	2	s.	U. S. Weather Bureau.
Wahoo	Saunders	1,187	11	.....	.....	.....	.....	.....	.....	.....	4.08	− 0.12	1.71	0	6	16	9	5	sw.	W. T. Mauck.
Wakefield	Dixon	1,387	20	64.0	+ 0.4	102	6†	25	22	45	1.80	− 1.28	0.58	0	8	17	8	5	s.	I. H. Weaver.
Walthill	Thurston	.....	10	64.8	.....	100	5	24	22	38[a]	1.82	− 2.30	0.67	0	8	13	8	9	s.	G. A. Dudley.
Watertown	Buffalo	2,299	8	.....	.....	.....	.....	.....	.....	.....	1.70	.....	0.68	0	6	14	13	3	n.	R. E. Swift.
Wauneta	Chase	2,935	16	.....	.....	.....	.....	.....	.....	.....	1.95	+ 0.05	0.80	0	6	.....	.....	.....	.....	C. D. Fuller.
Weeping Water	Cass	1,080	35	67.2	.....	107	4	29	22	44	4.84	+ 1.69	2.34	0	9	19	2	9	se.	S. W. Orton.
Westpoint	Cuming	1,313	25	67.6	+ 1.8	105	5	32	22	39	3.52	+ 0.49	1.42	0	9	17	8	5	se.	J. C. Elliott.
Wisner	....do	1,380	18	.....	.....	.....	.....	.....	.....	.....	1.12	− 2.76	0.68	0	5	27	0	3	.....	F. C. Evans.
York	York	1,633	23	67.8	+ 0.9	107	6	31	26	41	2.63	− 0.35	1.34	0	8	17	6	7	nw.	A. T. Glaque.
Iowa.																				
Afton	Union	1,212	19	66.8	+ 1.7	104	5	27	22	35	3.41	− 0.24	2.11	0	10	15	8	7	se.	N. W. Rowell.
Allerton	Wayne	.....	11	67.8	+ 2.5	103	4	27	22	39	1.21	− 3.50	0.43	0	6	17	9	4	s.	Maude Chase.
Alton	Sioux	1,305	8	62.8	.....	100	5	20	22	38	1.53	.....	0.46	0	8	14	12	4	se.	W. S. Slagle.
Atlantic	Cass	1,164	22	65.6	+ 1.2	104	5	28	22	36	3.75	+ 0.26	1.46	0	13	11	8	11	ne.	Thos. H. Whitney.
Audubon	Audubon	1,301	19	63.0	− 0.2	95	1†	27	22	34	5.04	+ 1.91	1.85	0	10	14	5	11	sw.	Geo. E. Kellogg.
Bedford	Taylor	.....	13	65.2	+ 0.6	107	5	26	22	41	3.21	− 0.23	0.92	0	10	16	4	10	se.	E. E. Healy.
Centerville	Appanoose	1,013	3	67.0	.....	106	4†	28	22	50	2.85	.....	1.20	0	5	15	12	3	w.	Gordon Peacock, jr.
Chariton	Lucas	1,042	18	65.7	+ 0.2	103	4	23	22	42	1.15	− 2.29	0.95	0	2	12	13	5	s.	C. C. Burr.
Clarinda	Page	1,009	23	65.6	− 0.6	106	5	32	22†	51	7.44	+ 4.75	3.90	0	12	.....	.....	.....	s.	A. S. Van Sandt.
Corning	Adams	1,117	21	65.2	+ 0.4	102	5	24	22	37	4.66	+ 1.50	1.40	0	10	11	11	8	se.	Jerome Smith.
Corydon	Wayne	1,101	20	67.4	+ 0.9	105	3†	25	22	40	1.57	− 2.02	0.50	0	9	12	6	12	s.	Mary C. Miller.
Council Bluffs	Pottawattamie	990	3	67.8[d]	.....	103	5	.....	.....	.....	5.46	.....	1.74	0	10	.....	.....	.....	se.	B. W. Crossley.
Creston	Union	1,312	8	64.4	.....	101	4	26	22	56	3.06	.....	1.03	0	11	14	4	12	se.	O. J. Colby.
Cumberland	Cass	.....	14	.....	.....	.....	.....	.....	.....	.....	4.71	+ 1.07	1.41	0	9	20	2	8	sw.	J. H. Reppert.
Denison	Crawford	1,180	19	63.4	− 0.3	98	5	24	22	36	3.04	+ 0.04	1.41	0	10	.....	.....	.....	s.	W. C. Van Ness.
Elliott	Montgomery	.....	8	66.5	.....	102	5	29	22	39	5.58	.....	1.66	0	11	16	7	7	se.	C. H. Westrope.
Greenfield	Adair	.....	21	64.2	− 0.7	104	5	27	22	37	3.79	+ 0.32	1.00	0	11	.....	.....	.....	sw.	Frank A. Ward.
Harlan	Shelby	1,182	14	63.7	+ 0.7	102	5	26	22	37	5.00	+ 1.29	1.74	0	13	12	8	10	se.	C. A. Reynolds.
Inwood	Lyon	1,474	9	64.3	.....	103	5	24	22	44	1.00	.....	0.39	0	6	23	1	6	s.	F. B. Hanson.
Lake Park	Dickinson	1,479	.....	62.4	.....	99	5	22	22	38	3.91	.....	1.43	0	7	19	9	2	s.	A. E. Woodruff.
Lamoni	Decatur	1,120	6	67.0	.....	103	5	31	22	37	2.98	.....	1.34	0	11	14	5	11	se.	T. J. Fitzpatrick.
Le Mars	Plymouth	1,224	17	64.0	+ 1.5	97	5	22	22	38	1.16	− 2.62	0.47	0	8	18	6	6	se.	G. A. C. Clarke.
Lenox	Taylor	1,250	18	66.2	+ 0.9	100	5	28	22	32	3.98	+ 0.65	1.96	0	11	20	3	7	s.	J. L. Hurley.
Leon	Decatur	1,120	11	67.6	+ 2.8	102	4	28	22	35	2.17	− 2.63	1.09	0	4	12	10	8	se.	Morris Gardner.
Little Sioux	Harrison	.....	8	66.6	.....	103	5	27	22	41	3.74	.....	1.10	0	12	17	6	7	se.	Geo. H. Gibson.
Logan	....do	928	46	65.8	+ 1.7	100	1†	29	22	34	4.02	+ 0.77	1.47	0	12	14	10	6	se.	Glenn H. Stern.
Mount Ayr	Ringgold	1,236	20	67.6	+ 0.9	105	5	31	22	34	2.66	− 0.87	0.74	0	10	14	6	10	s.	Alex. Maxwell.
Murray	Clarke	1,216	22	66.4	0.0	103	4†	28	22	36	2.90	− 0.59	1.60	0	10	12	10	8	s.	M. T. Ashley.
Northboro	Page	1,046	1	67.6	.....	104	5	32	22	36	3.75	.....	1.21	0	9	16	4	10	se.	J. M. Darby.
Odebolt	Sac	1,356	16	65.4	+ 1.9	102	5	26	22	37	3.23	− 0.52	1.15	0	8	20	4	6	.....	E. Starner.
Onawa	Monona	1,051	13	67.9	+ 2.7	101	5†	32	22	36	3.46	− 1.34	1.10	0	11	19	7	4	ne.	C. G. Perkins.
Pacific Junction	Mills	960	14	65.8	+ 1.3	103	4	28	22	39	4.20	+ 0.74	2.26	0	9	14	13	3	s.	H. H. McCartney.
Rock Rapids	Lyon	1,358	14	63.0	0.0	101	5	19	22	50	0.45	− 2.06	0.45	0	1	19	7	4	n.	W. C. Wyckoff.
Sibley	Osceola	1,212	20	61.9	+ 1.2	102	5	21	22	47	2.01	− 1.36	0.69	0	9	23	2	5	se.	H. G. Doolittle.
Sioux Center	Sioux	.....	14	63.2	+ 1.9	98	5	25	22	35	1.34	− 2.34	0.50	0	5	19	7	4	s.	J. de Ruyter.
Sioux City	Woodbury	1,135	24	64.6	+ 0.5	99	5	30	22	35	1.13	− 1.34	0.48	0	10	17	7	6	s.	U. S. Weather Bureau.
Spenser	Clay	.....	3	62.0	.....	98	4†	23	22	40	2.78	.....	0.85	0	6	.....	.....	.....	.....	S. Gillespie.
Thurman	Fremont	.....	16	65.6	− 0.2	99	1†	28	22	43	3.86	− 0.93	1.50	0	9	8	14	8	nw.	C. R. Paul.
Washta	Cherokee	1,157	15	64.3	+ 0.2	99	5†	21	22	42	3.98	+ 0.20	1.03	0	9	19	5	6	s.	H. L. Felter.
Kansas.																				
Abilene	Dickinson	1,157	18	.....	.....	.....	.....	.....	.....	.....	5.94	+ 3.10	1.20	0	9	10	11	9	s.	T. W. Sherman.
Agricultural College	Riley	1,100	55	68.8	+ 0.4	106	5	33	21	43	5.69	+ 2.50	2.41	0	11	16	5	9	w.	Prof. J. O. Hamilton.
Alton	Osborne	1,651	11	68.7	.....	107	6	33	26	53	2.15	+ 0.05	1.25	0	5	15	10	5	se.	H. A. Storer.
Atchison	Atchison	973	22	69.2	+ 0.9	106	4†	39	22†	38	3.76	− 0.63	0.90	0	10	16	8	6	s.	Prof. E. M. Stahl.
Beloit	Mitchell	1,383	18	68.0	.....	104	6	34	26	41	3.38	+ 0.88	1.16	0	9	10	11	9	sw.	F. A. Slack.
Blakeman	Rawlins	2,894	16	63.0	− 1.6	98	3†	24	26	47	2.35	+ 0.07	0.85	0	7	20	4	6	se.	C. L. Henderson.
Blue Rapids	Marshall	1,105	7	.....	.....	.....	.....	.....	.....	.....	3.53	.....	1.60	0	10	14	1	15	.....	M. Norton.
Centralia	Nemaha	1,256	4	68.8	.....	106	5	34	26	42	4.53	.....	1.30	0	12	13	7	10	ne.	N. S. Hazen.
Chapman	Dickinson	1,113	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. F. Halbert.
Clay Center	Clay	1,203	12	69.0	+ 0.2	108	5	34	21	41	4.26	+ 1.07	1.56	0	11	16	4	10	sw.	O. L. Slade.
Colby	Thomas	3,138	22	62.8	− 3.2	96	7	30	25	36	2.69	+ 1.20	0.83	0	11	15	10	5	sw.	G. H. Kinkel.
Concordia	Cloud	1,398	29	68.0	− 0.1	103	6	37	26	37	3.03	+ 0.45	1.54	0	10	10	10	10	s.	U. S. Weather Bureau.
Densmore	Norton	2,200	4	66.0	.....	102	7	31	25	37	2.38	.....	0.95	0	10	17	7	6	s.	Miss Irene Vaughn.
Dresden	Decatur	2,731	19	64.4	− 2.1	100	4†	32	25†	36	3.12	+ 1.23	0.79	0	8	15	7	8	se.	Jacob Bock.
Ellsworth	Ellsworth	1,537	9	68.7	.....	106	6	36	21	41	4.75	.....	1.78	0	8	12	10	8	s.	Geo. Seitz.
Emmett	Pottawatomie	1,024	1	.....	.....	.....	.....	.....	.....	.....	3.48	.....	1.30	0	4	14	6	10	s.	Frank Zina.
Eskridge	Wabaunsee	1,412	7	69.0	.....	105	5	38	21	36	6.50	.....	2.55	0	9	14	11	5	s.	Geo. D. West.
Farnsworth	Lane	2,850	12	65.1	− 3.2	101	6†	29	21†	48	3.64	+ 1.85	1.33	0	8	21	4	5	s.	C. M. Jennison.
Ft. Scott	Bourbon	857	38	69.2	− 2.0	105	5	39	22†	40	2.24	− 1.45	0.60	0	8	15	3	12	sw.	E. A. Shaver.
Frankfort	Marshall	1,146	19	68.5	+ 0.7	107	5	34	26	42	4.14	+ 0.35	1.84	0	6	16	7	7	sw.	W. W. Watson.
Garnett	Anderson	950	7	69.8	.....	106	5	40	21†	36	1.59	.....	0.73	0	7	9	14	7	s.	D. D. Judy.
Goodland	Sherman	3,687	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. C. Calvert.
Grainfield	Gove	2,813	.....	64.7	.....	100	2†	32	25	36	3.69	.....	1.10	0	9	16	5	9	s.	C. A. Bolster.
Hanover	Washington	1,225	16	67.8	− 0.4	104	5	35	26	43	3.29	+ 0.12	1.48	0	6	15	7	8	s.	A. Jaedicke, jr.
Harrison	Jewell	1,804	12	66.6	0	103	6	31	26	44	2.88	− 0.11	1.53	0	9	16	11	3	s.	Mahlon Tegley.
Hays	Ellis	2,000	45	66.6	− 1.5	101	6	35	14†	42	4.80	+ 2.43	2.05	0	9	12	7	11	nw.	G. K. Helder.
Hill City	Graham	2,134	5	65.8	.....	102	6†	34	21†	41	2.55	.....	1.30	0	7	13[a]	12[a]	4[a]	s.	C. A. G. Inlow.
Holton	Jackson	1,043	2	.....	.....	108	5	36	26	.....	3.87	.....	1.40	0	7	14	10	6	s.	Miss Thamar Richey.
Horton	Brown	1,188	24	68.0	− 0.2	107	5	37	22	46	5.79	+ 1.82	2.60	0	12	12	10	8	se.	Mrs. S. C. Belden.

TABLE 1.—*Climatological data for September, 1913. District No. 6*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, 0.01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
***Kansas*—Continued.**																				
Hoxie	Sheridan	2,700	14	65.2	− 1.7	102	7	30	25	44	3.06	+ 1.08	0.80	0	9	13[a]	12[a]	4[a]	se.	I. L. Vinson.
Lawrence	Douglas	997	45	69.9	0	106	5	38	22	41	3.27	− 0.74	1.73	0	8	13	6	11	e.	R. K. Young.
Leavenworth	Leavenworth	913	69	69.5	+ 2.1	102	1	39	22	34	4.03	+ 0.26	1.55	0	9	16	1	13	e.	Dr. A. F. Yohe.
Lebanon	Smith	1,812	15	67.2	− 0.4	104	5	35	28	36	1.73	− 1.39	1.40	0	3	20	7	3	s.	E. V. Bower.
Lenora	Norton	2,300									3.32		1.21	0	7					J. S. Goodrich.
Leoti	Wichita	3,300	10	62.4		98	2	30	21	46	2.54		1.03	0	7	16	10	4	s.	L. E. Gorsuch.
Lincoln	Lincoln	1,374	1	68.6		105	6	36	21†	42	3.24		1.73	0	7	10	9	11	s.	R. W. Greene.
Lindsborg	McPherson	1,333	7								4.94		2.05	0	6	11	7	12	s.	A. J. Frederickson.
McCracken	Rush	2,139	1	66.4		102	6	36	21†	39	6.76		2.70	0	8	17	9	4	s.	E. D. Floyd.
Manhattan	Riley	1,014	21	68.8	0	107	5	34	21	44	5.52	+ 2.33	1.73	0	10	12	4	14		C. P. Blachly.
Minneapolis	Ottawa	1,259	23	69.2	+ 0.1	105	5†	38	21	38	3.65	+ 0.96	1.31	0	6	15	4	11	s.	J. L. Steele.
Moran	Allen	1,098	17	70.4	− 1.0	107	5	37	21	37	4.98	+ 1.14	4.20	0	5	8	9	13	se.	C. J. Norton.
Natoma	Osborne	1,834	4																	C. O. Hunt.
Norton	Norton	2,284	15	65.2	− 2.0	103	7	29	25	42	2.19	+ 0.31	0.80	0	8	14	13	3	s.	Sim Sieffel.
Oberlin	Decatur	2,539	26	65.4		102	6	28	26	45	2.17	+ 0.35	0.67	0	10	14	9	7	s.	I. K. Huber.
Oketo	Marshall	1,194	5	69.2		105	5	35	26	37	4.20		1.95	0	8	9	11	10	sw.	J. A. Church.
Olathe	Johnson	1,032	18	69.8	+ 0.8	107	4	36	21	39	1.76	− 1.90	0.76	0	8	13	5	12	se.	Dr. S. B. S. Wilson.
Oskaloosa	Jefferson	991									3.86		1.39	0	8					Ralph Snyder.
Ottawa	Franklin	926	19	70.2	+ 1.0	107	5	36	22	43	1.83	− 1.90	0.95	0	9	16	4	10	s.	W. J. Sheldon.
Phillipsburg	Phillips	1,939	22	66.8	− 1.0	104	7	32	25	40	3.30	+ 0.53	1.23	0	10	13	13	4	s.	N. E. Bailey.
Plainville	Rooks	2,156	7																	P. D. Spellman.
Pleasanton	Linn	862	11	70.8	+ 0.3	104	4	37	27	38	2.55	− 1.19	0.89	0	10	13	5	12	sw.	B. F. Blaker.
Quenemo	Osage	941	1								2.20		0.67	0	6	12	10	8	sw.	R. L. Graham.
Republic	Republic	1,495	10	67.6		107	6	31	21	44	4.47		2.00	0	6					J. W. Ambrose.
Russell	Russell	1,834	14	67.6	− 1.3	103	6†	35	26	39	3.74	+ 1.40	1.52	0	6	15	7	8	s.	Robert Brebner.
Russell Springs	Logan		3	64.6		99	2	33	21	45	2.78		0.90	0	6	19	7	4	s.	D. J. Hutto.
St. Francis	Cheyenne	3,288	5	62.4		100	1†	28	25	45	2.45		0.85	0	7	15	8	7	sw.	J. E. Uplinger.
Salina	Saline	1,227	29	68.8	− 1.5	102	5†	38	21	36	5.61	+ 3.28	1.86	0	7	14	9	7	se.	Prof. A. W. Jones.
Scott	Scott	2,971	7	64.6		104	7	32	25	45	4.05		1.00	0	8	18	7	5	s.	J. B. Loughran.
Smith Center	Smith	1,800	3	68.0		105	6†	32	26	42	3.09		1.71	0	5	12	13	5	se.	W. H. Nelson.
Topeka	Shawnee	997	27	68.8	+ 0.5	102	5	41	22	34	5.98	+ 2.42	3.13	0	9	13	8	9	e.	U. S. Weather Bureau.
Tribune	Greeley	3,612	14	62.7		96	1	31	25	40	2.70	+ 1.68	1.60	0	5	12	7	11	s.	Charles E. Cassel.
Valley Falls	Jefferson	913	14	68.2	+ 0.5	106	5	36	26†	42	2.96	− 1.35	0.89	0	8	17	6	7	se.	Miss Nettie Maxwell.
Viniand	Douglas	880	4								3.20		1.28	0	8					A. Schick.
Wakeeney	Trego	2,456	30	66.0	− 2.0	100	6†	33	25	37	4.18	+ 2.12	1.37	0	9	21	1	8	s.	A. S. Peacock.
Wallace	Wallace	3,303	43	64.1	− 2.9	99	7†	29	21†	45	1.40	+ 0.10	0.51	0	5	18	9	3	s.	J. L. Page.
Wamego	Pottawatomie	1,002	20	69.6		105	5	39	26	38	4.00	+ 0.18	1.90	0	7	15	5	10	se.	M. L. Stone.
Missouri.																				
Amoret	Bates	850	5	71.2		105	4†	39	27	36	2.55		0.86	0	8	11[b]	4[b]	13[b]	ne.	Darby Fruit Farm.
Appleton City	St. Clair	853	24			107	6	32	21	43	3.17	− 0.32	1.05	0	5	17	9	4	s.	Robert Brown.
Arlington	Phelps	695	11								5.31	+ 1.91	2.05	0	11	16	6	8	sw.	G. V. Randolph.
Arthur	Vernon	767	21	70.2[e]	+ 0.9	106	4†	37	22†	46	4.36	+ 0.42	1.40	0	7	11	9	10	ne.	J. T. Armstrong.
Avalon	Livingston		28	69.4	+ 0.5	107	4	33	22	36	3.86	− 1.78	2.00	0	7	14	8	8	sw.	F. G. Ashbaugh.
Bethany	Harrison	881																		W. H. Skinner.
Bolivar	Polk	1,070	26	70.9	+ 0.6	108	4	42	21†	41	4.44	+ 0.97	2.00	0	10	13	11	6	ne.	A. C. Fink.
Boonville	Cooper	600	38								5.12	+ 0.72	1.73	0	10	18	0	12	se.	C. Randecker.
Brunswick	Chariton	652	35	67.7	− 0.5	103	4	36	22†	46	3.39	− 0.60	1.30	0	9	11	7	12	e.	Louis Benecke.
Clinton	Henry	800	25	72.4		108	4	40	27	41	5.48	+ 2.07	1.70	0	10	13	11	6	se.	A. E. Derwent, M. D.
Columbia	Boone	784	25	69.6	+ 1.8	103	4	37	22	33	4.40	+ 1.55	1.48	0	9	9	7	14	se.	U. S. Weather Bureau.
Conception	Nodaway	982	28	67.2	+ 0.4	102	4†	33	22	30	2.89	− 0.41	0.75	0	9	8	14	8	nw.	Fr. Adhelm Hess.
Crocker	Pulaski	1,300	3	73.2[e]		105	4	32	24	49	2.10		0.46	0	9	12[d]	6[d]	8[d]	s.	Ira H. Stephens.
Duncan	Webster		1	68.4		103	4	39	21†	38	5.32		1.30	0	14	12	6	12	s.	C. A. Mingus.
Eldon	Miller	934	2	70.2		108	4	38	22†	36	6.00		1.98	0	10	4	20	6	s.	Charles A. Kellogg.
Fayette	Howard	725	31	69.1	+ 0.3	105	3	36	22	34	6.65	+ 2.15	2.21	0	9	11	4	15		Prof. T. B. Smith.
Fulton	Callaway	818	23	69.5[d]	+ 0.4	106	4	34	22	39	4.16	+ 0.04	1.07	0	8	11[e]	7[e]	7[e]		Russell Johnston.
Glasgow	Howard	618	36								3.90	− 0.07	1.08	0	9	18	1	11	e.	J. J. Shaughnessy.
Grant City	Worth	1,130	22	67.0	+ 0.2	105	4	32	22	36	2.81	− 0.98	0.97	0	8	19	0	11	se.	W. H. Campbell.
Harrisonville	Cass	912	42	69.1	+ 0.8	106	4	40	22†	40	4.57	+ 0.34	2.26	0	11	11	2	17	se.	A. J. Sharp.
Hazelhurst	Livingston		21								2.19	− 1.69	1.24	0	7					W. H. Baker.
Hermann	Gasconade	482	40								6.15	+ 2.37	3.38	0	12	7	10	13	e.	C. T. Maushund.
Houston	Texas	1,280	22	67.4	− 1.5	106	4	35	22	45	6.01	+ 2.02	1.93	0	12	1	21	8	s.	E. Dempsey.
Jefferson City	Cole	628	32	67.8	− 1.2	105	4	35	22†	45	7.17	+ 4.25	1.80	0	13	16	0	14	e.	Miss Emma Swift.
Kansas City	Jackson	963	26	69.1	+ 1.6	101	4	42	22	28	4.14	+ 0.38	1.87	0	9	11	7	12	s.	U. S. Weather Bureau.
Kidder	Caldwell	1,017	24	67.8	+ 0.4	103	4†	34	22	31	1.54	− 2.36	0.34	0	9	14	4	12	sw.	J. F. Sharp.
Lamonte	Pettis	863	25	70.0		105	4	35	22	38	6.30	+ 2.05	2.15	0	11	11	8	11	sw.	J. Ed. Hall.
Lebanon	Laclede	1,265	26	69.4[b]	− 0.6	100	1	40	21	28	4.86	+ 1.03	1.55	0	8	14	5	11	e.	M. W. Serl.
Lexington	Lafayette	813	32	69.0	+ 0.7	103	4	36	22	33	3.84	− 0.62	1.38	0	9	15	0	15	n.	J. W. Keithley.
Liberty	Clay	864	26	70.5	+ 1.4	106	5	36	22	37	2.90	− 0.83	0.92	0	8	8	14	8	e.	W. C. Wilmott.
Lockwood	Dade	1,088	18	70.2		102	4	39	21	35	4.32	+ 0.72	1.89	0	8	15	4	11	se.	C. S. Crow.
Marshall	Saline	779	23	69.4	+ 0.8	104	4	37	22	38	6.23	+ 2.59	2.37	0	11	18	7	5	nw.	Prof. W. H. Black.
Maryville	Nodaway	1,160	24	66.7	+ 0.9	105	4	32	22†	53	3.79	+ 0.23	1.20	0	11	19	2	9	e.	J. R. Brink.
Mount Vernon	Lawrence	1,480	37	70.3[d]	− 1.3	104	4	40	21	40	4.50	+ 0.98	1.25	0	9	15[e]	0[e]	10[e]	sw.	J. R White & Son.
Nevada	Vernon	860	20								5.19	+ 0.99	1.40	0	10	17	8	5	sw.	C. Jewell.
Oregon	Holt	1,113	59	67.7	+ 0.7	102	5	36	21†	29	3.41	− 0.06	1.75	0	8	13	6	11	se.	Tom Curry.
Rolla	Phelps	1,139	33	69.9	+ 2.5	105	4	38	22	39	4.68	+ 0.88	1.29	0	9	18[a]	4[a]	7[a]	e.	Prof. P. J. Wilkins.
St. Catherine	Linn		1	68.8		102	4	31	22	34	2.35		1.75	0	3	15	13	2	s.	L. D. Baker.
St. Charles	St. Charles	614	36	70.4	+ 4.0	105	3	37	22	39	7.95	+ 5.24	3.71	0	8	15	7	8	s.	L. C. Saeger.
St. Joseph	Buchanan	967	42	68.8		102	5	38	22	32	4.06	+ 0.98	2.11	0	10	12	7	11	se.	U. S. Weather Bureau.
St. Louis (1)	St. Louis City	567	43	69.8	+ 0.1	99	1	42	22	31	4.50	+ 1.59	1.81	0	12	13	8	9	se.	Do.
St. Louis (2)	do	578	2	69.6		101	3	40	22	30	5.38		2.16	0	13	13	7	10	se.	St. Louis University.
Sublett	Adair	1,000	34	68.4	+ 1.5	104	4†	29	22	38	3.45	− 0.66	2.00	0	3	6	12	12	sw.	Lewis Spriggs.
Tarkio	Atchison		2	68.6		104	5	32	22	34	3.86		1.43	0	5	16	1	13	s.	Prof. M. H. Rees.
Trenton	Grundy	812	19	68.6	+ 1.3	99	4	33	22	29	1.79	− 2.08	0.70	0	10	13	8	9	se.	W. H. Estes.
Unionville	Putnam	1,072	21	67.4	0	105	4	27	22	53	2.21	− 2.43	0.74	0	9	13	5	12	s.	Geo. W. Davis.
Warrensburg	Johnson	883	35	70.8	+ 1.1	107	4	39	22†	35	4.77	+ 1.59	2.00	0	10	11	7	12	ne.	A. F. Smithson.
Warrenton	Warren	865	24	69.0	+ 0.3	105	1†	35	22	42	5.12	+ 1.27	2.07	0	8	11	5	14	s.	Prof. J. H. Frick.
Warsaw	Benton	700	10	71.7	+ 0.3	107	4	35	27	42	2.97	− 1.56	0.67	0	10	13	10	7	e.	J. R. Smith, M. D.
Wheatland	Hickory	920	22								5.58	+ 1.62	2.20	0	7	15	9	6	s.	Mrs. S. A. Jackson.

[a], [b], [c], etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.
** Temperature extremes are from observed readings of the dry bulb; means are computed from observed readings.
† Also on other dates.
‡ All temperature normals for Montana used in this table have been reduced to the 33-year period.
T Precipitation is less than 0.01 inch rain or melted snow.

TABLE 2.—*Daily precipitation for September, 1913. District No. 6, Missouri Valley.*

Stations.	Watershed.	Day of month.																												Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Wyoming.																																
Arapahoe	Bighorn		.10					.17											.08					1.05							1.40
Basin	do																						1.11	.67							1.78
Big Creek Station	North Platte	T.			.03					.74	.18					.10							.30	T.	T.				.31			1.66
Boyd	Cheyenne		T.					.17		T.			.04		.12	.03	1.10			.12				.28	.08	.01						1.95
Burns	South Platte	.10	.60							.10					.75	.15							.05	.15					.20			2.10
Casper	North Platte							.25	.14	T.					.32	.13							.13	T.	.09							1.06
Centennial	do	.02	.02		.07	.04			.18	.10		.08				.03								.03	.23							0.80
Cheyenne	South Platte	.03	.94	.06				.01	.22	.13	.08				.20	.43				.01			.36	.14	.01				.20			2.82
Chugwater	North Platte																															
Clark	Yellowstone		.05						T.	T.				T.	.15	.14							.12	T.	T.							0.46
Cody	Bighorn		.05							T.					.10	T.			T.					.21								0.36
Crandall Creek	Yellowstone		.40											T.	.13								.05									0.58
Dome Lake	Tongue														.12	.40				.18			.50		.70	.20						2.10
Douglas	North Platte	T.		T.			T.	T.	.16						T.	T.	.26						T.	.14	.04						.06	0.66
Dubois	Bighorn							.22	.06						T.								T.	.10							T.	0.38
Eatons Ranch	Tongue																1.00							.22	.38							1.60
Echeta	Powder																															
Elk Mountain	North Platte			.55			.17	.02	.54	.06					.14								.13									1.61
Encampment	do	.50			T.	.03			T.	.07	.06					.02							.42	T.	.07	T.					T.	1.17
Ervay	Powder	.02	T.					.16	T.						T.	T.							.04	.39	.04						T.	0.65
Fort Laramie	North Platte			.25				.01			.08					.48	.25	.05		T.			.16					.05				1.33
Foxpark	do	T.		.35	T.		.10		.22	.15	T.					T.							.38	T.	.25							1.45
Germania	Bighorn									T.					.20									.43	.06							0.69
Gillette	Powder																															
Horse Creek	Bighorn		.14	.04			T.	.20	.13	.11									T.				T.	.17	.10						T.	0.89
Hunters Station	Powder		.01	.20											.41	.29				.04			.25	.20	.14							1.54
Hyattville	Bighorn																							.05								0.05
Jireh	Niobrara	.02		.07											.02	.80	.15						.24						.05			1.35
Kinnear	Bighorn		T.					T.							T.								T.	.45	.06							0.51
Kirtley	Niobrara		.50														.78							.29								1.57
Kirwin	Bighorn						.01	.33		.20				T.	.10					.02			.03	.90	.10							1.69
Knowles	Cheyenne							T.							.11	.49	2.88			T.				1.30	.13							4.91
Lagrange	North Platte		.33	.11						.05						.46	.06							.27					.10			1.38
Lander	Bighorn		T.	T.				.08		.01					.07	.07							.84	.24	.04						.08	1.43
Laramie	North Platte	.22						.55	.17		.18				.05								.03						.20	.04		1.44
Leo	do																															
Lolabama Ranch	Yellowstone		.30																					.30								0.60
Lovell	Bighorn																															
Lusk	Niobrara	.20														.50	.35															1.05
Manville	do																															
Moorcroft	Cheyenne							T.		.03			T.	.02		.07	1.30	.02			.01			1.05	T.	.03						2.53
Moore	North Platte				.02		.01			.80				T.	.05	.03							.10						.31			1.32
Newcastle	Cheyenne		.05					.03					.45		T.	.23	.70			T.				.31								1.77
Pathfinder	North Platte	.02	.14				T.	.02		T.					T.	T.	.08						.01	T.	T.						T.	0.27
Pinebluff	South Platte	.62	T.	1.06	.38	.02			T.	.52	T.	T.			1.08	.46	.03							.15	.08				.28	.16		4.84
Pine Ridge	Cheyenne						T.	T.			.07	.01	.19		.10	1.55	.90	.06					.19	.68	.18							3.93
Powell	Bighorn														.63	.02							.02	.10	.05							0.22
Rawlins	North Platte		T.	.02				T.		.03				T.	.08		T.						.07		.02						.15	0.37
Rock River	do		.11		.02	.10			.06							.02							.03									0.34
Rockypoint	Powder		.03												.24	2.51	.45		T.	.04			.38	.70	.30							4.65
Saratoga	North Platte		.10	.01	.05					.15													T.									0.31
Seven-Mile Creek	do	.10	.18		.05	.30	.08		.36	.10						.03	.13			.10			.03	.06	.05				T.			1.57
Sheridan	Tongue		.12						T.	T.					.11	.90			.01	.06			.23	.50	.02							2.04
Shoshone Dam	Bighorn		.06						T.						.08	T.			.02	T.			.20	.32								0.68
South Pass City	North Platte	.02	T.	.17			.02	.02		.02					.04								.04	.25	T.						.09	0.67
Sundance	Cheyenne						.05				.12			.15	.04	.13			.01				.03									0.53
Thermopolis	Bighorn														.34	.04	.01						.27	1.18	.18							2.02
Ulm	Tongue		.01												.41	.24	.01			.05			.14	*	.44							1.30
Upton	Cheyenne							.31	T.	.07		.18			.03	.50	.16	T.		T.			.52	T.	.02							1.79
Verona	Tongue		.18													1.16							.25	1.25								2.84
Wheatland	North Platte		T.	T.				.60	.20						T.	.29				T.			.21						.14			1.44
Wiants Ranch	do	.05		T.	.02	.10			.10		.05												.25									0.57
Woodrock	Tongue		T.	.12					T.	.20					.25	.50				.20			.35	1.06	.50						T.	3.18
Worland	Bighorn		.01												.05	T.								.68	.02							0.76
Wyncote	North Platte		T.	T.	.24					T.	.52				T.	.48	.26			T.			.18	.10					.06			1.84
Yellowstone Park	Yellowstone		.25	.08			T.	T.	.14	.01				.01	.07					.02		.03	.56	.17							T.	1.34
Fountain	Madison							.10	.30	.50																						0.90
Gallatin	Gallatin		.10						.10	.20													.20	.10								0.70
Grand Canyon	Yellowstone		.25	.08					.23	.13				.03	.16								.27	.01							.25	1.41
Lake Yellowstone	do																															
Norris	Madison																															
Riverside	do		.50	.23					.20														.03									0.96
Soda Butte	Yellowstone		.01						.41													T.	T.									0.42
Sylvan Pass	Bighorn	.05	.35	.01					.09	.20				.01	.08									T.								0.79
Thumb	Yellowstone		.30	T.	T.			.70	.20	.10					.10									.20								1.60
Tower Falls	do		.25						.05	.04													.38									0.72
Up'r Geyser Basin	Madison	.19	.23	.22					.67					.08	.02	.02																1.43
Montana.																																
Absarokee	Yellowstone		.10						T.						T.					.08			.06	.91	.25							1.40
Adel	Missouri																															
Agricultural College	Gallatin	.06	.07						.15	.43	.08			.05					.03	.07			.45	.48							.13	2.00
Augusta	Missouri																															
Babb	St. Marys																															
Bald Butte	Missouri			.09					.05										.06		.25		.26	.61								1.32
Bigtimber	Yellowstone	.12									.09												.10	.15								0.46
Billings	do	T.							T.						.04	.12				T.			.20	1.28	.16							1.80
Blackleaf	Missouri																		.02		.10		.15									0.27
Boulder Nursery	Jefferson		.05						T.	T.										.50			.14	.41								1.10
Bowen	do			.11					.02	.40									.02				.05	.15								0.75
Box Elder	Milk	T.							T.										T.	T.			.75	.11								0.86
Bridger	Yellowstone								.03														.34	.42								0.79
Broadview	do	.90													.09	.31				.02		*	.35	.75								2.42
Browning	Marias																					*	*	.50								0.50
Busby	Yellowstone									.24					T.	.39				.31			.13	.91	.08							2.06
Busteed	do	.87	.05							.02													.25	.42	.03							1.64
Canyon Ferry	Missouri									.07										.09				.37								0.53
Cascade	do	.08							T.											.15			.56	.34								1.13
Chester	Marias																		.04				.30									0.34
Chinook	Milk																			.19	.04	.02										0.25
Clydepark	Yellowstone								.11	.25				T.	.09				.01	.08			.30	.05								0.89

TABLE 2.—*Daily precipitation for September, 1913. District No. 6*—Continued.

Stations.	Watershed.	Day of month.																											Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Montana—Contd.																																
Conrad	Marias																		T.	.20			.28	.39								0.87
Copper	Missouri								.07					T.						T.			.20	.10						T.		0.37
Crow Agency	Bighorn															.60				.15			.26	1.40	.25							2.66
Culbertson	Missouri																															
Cut Bank	Marias	T.																														T.
Denton	Missouri	.08		T.					T.						T.				.01	.28		T.	.78	.65								1.80
Dillon	Jefferson		.32						.08	.13												.11	.32	.81							T.	1.77
Dunkirk	Marias	.08																		.13				.43								0.64
Ekalaka	Lt. Missouri			.20											.12	.31	.92	.05					.30	.20	.30	.05						2.45
Fallon	Yellowstone														1.02	.13								*	1.35							2.50
Findon	Missouri	.03							T.	.09					.01	.04			.01	.05			.29	.27								0.79
Flathead Creek	Yellowstone									.08						.02			.01	.02				.30	.20							0.63
Flatwillow	Missouri						.03	.01		.08	.01				.01	.05				T.			.30	.25	.02							0.76
Forsyth	Yellowstone									T.						.30			T.				.08	2.05								2.43
Fort Shaw	Missouri								T.											T.			.23	.45								0.68
Foster	Big Horn	T.								T.					T.	.78	.02			.20			.24	1.08	.15							2.47
Garneill	Missouri																															
Geyser ||	....do	.05																	.05				.03	.20	.20							0.53
Glasgow ||	Milk								T.					T.										23								0.23
Glendive	Yellowstone						.25								.15	.52	.20							.80	.20							2.12
Goldbutte	Marias	T.																		.10			.35	.13								0.58
Graham	Powder			.10												.76	1.00						.08	.89	.23							3.06
Great Falls	Missouri	.08																	T.	.05			.52	.32								0.97
Harlowton	....do																															
Havre	Milk								.03					T.	.02				T.			T.	.70	.07								0.82
Hebgen Dam	Madison																															
Helena	Missouri								T.										.03	.05		T.	.17	.11								0.36
Highwood	....do	.05							T.										.25				1.50	1.20								3.00
Huntley	Yellowstone	.12														.11							.32	.98	.13							1.66
Knobles Ranch	Milk	.03													.14				.05	.18		T.	.68									1.08
Lewistown ||	Missouri	.12						T.												.27			.37	.65	.47							1.88
Lonetree	....do	.12																		.34			.80	.67								1.93
Lothair	Marias																			.20		T.	.25									0.45
Lytle	Missouri	.01																	T.	.10		T.	.50	.24								0.85
Malta	Milk																		.02				.27	.02								0.31
Medicine Lake	Missouri																							.10	.53							0.63
Melstone	....do																															
Mildred	Yellowstone							T.								.98								.58	.59							2.15
Miles City	....do		.04												.02	.93				.01			.21	1.42	.32							2.95
Norris	Madison	.07							.45	.24	.01				.02					.14			.34	1.27								2.54
Pinegrove	Missouri	.16							.12													.30	.22	.60								1.40
Pipestone Pass	Jefferson																															
Plevna	Yellowstone			.02											.04	1.07	.47		T.					.61	.15							2.36
Poplar	Missouri									T.														.40	.20							0.60
Red Lodge	Yellowstone		.04						.02						.17								.56	.62	.04							1.45
Renova	Jefferson		.17	.31					T.														T.								T.	0.48
Ryegate	Missouri	.10								.06	.16												.17	.35								0.84
Savage	Yellowstone						T.									.06								.40	.25							0.71
Shelby	Marias																		.10				.25	.18								0.53
Sidney	Yellowstone																															
Springbrook	Missouri	T.								.04						T.							T.	.38	.44	.02						0.88
Sunlit Farm	Milk	T.																		.01			.55	.04								0.60
Sun River Canyon	Missouri																					12	.28	.26								0.66
Three Forks	Madison														.02				.03				.27	.10								0.42
Utica	Missouri	.23						.07											.03	.22			.34	.24								1.13
Valentine	....do																					35	.43	.07								0.85
Valier	Marias																		.02	.23			.25									0.50
Wall Rock Mountain	Missouri								.03					.11						.04			.10	.29								0.57
Wheaton	....do	.34								.05					.04	.04							.15	.05								0.67
White Sulphur Sprgs	....do	T.	T.																	.20			.20	.10								0.50
Wilder	....do	T.							T.						T.	T.							.27	.30	T.							0.57
Wolf Creek	....do	T.																	.03				.51	.49								1.03
North Dakota.																																
Aplin	Knife									.16	.11				.11					T.			T.	T.	.70	.10						1.18
Arnegard	Missouri																															
Ashley	....do				T.	T.				.34							.26							34								0.94
Beach	Lt. Missouri						T.		T.						.03	.40	.55						T.	.62	.14							1.74
Belfield	Heart															.50							*	*	.70							1.20
Berthold Agency	Missouri			.02		.18			T.		.07				.06	T.				T.			T.	.58	.15							1.06
Bismarck	....do					.24	.51			1.02	.09				.01					T.			T.	.35	.07							2.29
Buford	....do																						.08	.50	.18							0.76
Carson	Heart					T.	.05			.21	28													.46	.05							1.05
Dickinson	....do								T.		.10				.06	.06	.12						T.	.36	.24							0.94
Edgeley	James			2.20		.08					.02						.04							22								2.56
Epping	Missouri			1.33																				.48	.16							1.97
Fullerton	James			.06			T.				.74													.18	T.							0.98
Garrison	Missouri		T.		T.	.34	T.		T.	.20					.07					T.			T.	.58	.16	.12						1.47
Haley	Grand					T.					.10				.15		.55						.10	.50	.40							1.80
Hettinger	....do																															
Howard (near)	Missouri	T.	T.	.33			T.		T.	T.	T.												T.	*	.68							1.01
Jamestown ||	James				.13	T.	*	.45			.98													.38		.14							2.08
Krem	Knife																															
Lamoine	Missouri					.70	.92			*	2.14									T.				*	*	.57							4.33
McHenry (near)	James																															
Marmarth (near)	Lt. Missouri			.04		.14	.01		.01	.57	.10				.09		1.00		T.				T.	.60	.16	T.						2.72
Marstonmoor	James	T.		T.	T.	.60	T.	.09	T.	T.	.86				T.					T.				.46	.06	.09						2.16
Medora	Lt. Missouri																															
Melville	James					.23	.35			1.15													.25	.25								2.23
Mott	Cannon Ball									.22					.13	.20							.10	.53	.09							1.27
Napoleon ||	Missouri							.75			.50							.08						.10	.26	.06							1.75
New England	Cannon Ball																															
New Rockford	James																															
New Salem	Heart						T.	T.	T.	.08		.17			.05					T.				.35	.06							0.71
Orange	Cannon Ball						.20				.35				.10		.27							.27	.03							1.22
Ranger	Lt. Missouri		.04	.20		.01		T.		.09						.85							T.	.41	.12							1.72
Ronda	Knife										.05				.03		.01							.47	.26							0.82
Steele	Missouri			T.			.08												T.					.65	.06	.04							0.83
Turtle Lake	....do					.02			T.	.34	.12				.06	T.				T.				.39	.12	.14							1.19
Washburn	....do					T.				.25	.25				T.								T.	.50	.37							1.37
Williston	....do	T.		.39											T.				T.	.03			.07	.51	.07							1.07

TABLE 2.—*Daily precipitation for September, 1913. District No. 6*—Continued.

Stations.	Watershed.	Day of month.																												Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
South Dakota.																																
Aberdeen ‖	James			.60	T.		T.	T.	T.		T.	.10			T.	.05	.10	.10						.05	.05	.10	T.					1.15
Academy	Missouri		.33	.26					.02	T.							.27	.11						.20	.18					.16		1.53
Alexandria	James		.37	.21							.47													.32						.05		1.42
Ardmore	Cheyenne					T.		.02	T.								.85	.48		.03				.12								1.50
Armour	Missouri		.50	.48							.60													.25								1.83
Bellefourche	Cheyenne							.14							.12	.11	2.13							.07								2.57
Blunt	Missouri		T.							T.						.27	.80	T.					T.								1.07
Britton	James	T.	.03	.30	.07		.02	.04			.25					T.	.10						.43								1.24
Brookings	Big Sioux		.64	.19							.17													.44					.11		1.55
Bryant	....do		T.	.20							.14					T.					T.			.27	T.	T.			T.	.10		0.71
Camp Crook	Lt. Missouri		.08								.08				.14		1.07							.40	.02							1.79
Canton	Big Sioux																				.23	.63							.13			0.99
Castlewood	....do		.31	.30							.26	T.												.25	.06	.01	T.		.03	.02	T.	1.24
Centerville	Missouri		T.	T.							.13									T.				.58	.04				.17	.02		0.94
Chamberlain	....do																	.54														0.54
Clark	James	T.	.23	1.18			T.				T.				.08	T.				T.	T.			.27	.02	.08			T.	T.		1.86
Cottonwood	Missouri			T.		.06		.26		.09						.30	.29	.09						.06							T.	1.15
Custer	Cheyenne		.07						.25							1.64								38							.24	2.58
Daviston	Owl						.23								.15		1.06							.56	.10							2.10
Deadwood	Cheyenne							.40							.10	.08	2.50			.05			T.		.40							3.53
Deerfield	....do						T.	.28		.03	.01				.10	.47	1.26			.04			T.	.17	T.						.11	2.47
De Smet	James		.32	.05																				.20	.12				.13			0.82
Dowling	Cheyenne														T.	.10	1.60							.20					T.			1.90
Dumont	....do						.10	.56							.18	.99	1.63			.11				.16	.29							4.02
Eagle Butte	Grand																															
Eales	Missouri			.03		T.	T.	.05			T.					.10	.84			T.				.10	T.	T.						1.12
Elk Mountain	Cheyenne	T.						.40					.45		1.79									.34	T.							2.98
Ellingson	Grand					T.			T.		.17				.10	T.	.28							.57	.05							1.17
Eureka	Missouri			T.		.06					.06					.06	.24	.01		T.				.11		T.						0.54
Fairfax	....do			1.00					.15	T.	.05							.08						.37	.05							1.70
Faith	Cheyenne														.03		.90							.10	.02	.02						1.07
Faulkton	James					T.	.02	.09								.04	.20							.02	.01							0.38
Flandreau	Big Sioux		.33	.80							.40	.03												.65					.10			2.31
Forestburg	James	.08	.56	.19						T.	.10									T.					.07					.02		1.02
Fort Meade	Cheyenne							.04					.64																			0.68
Goldfield	....do			.15		.02			.02						.14	1.00	1.50						.33			.01						3.17
Greenmont	....do							.40							.10	.10	1.20	.45						.15	.22							2.62
Greenwood	Missouri		1.00	.17							.59									T.			.12		.06							1.94
Hardingrove	Cheyenne			.01		.30				T.					.13		1.11							.10	T.							1.65
Hardy Ranger Station.	....do																															
Harveys Ranch	....do						T.						.50			.30	1.70			.10				.15								2.75
Hermosa	....do								.17						.10	2.83	.62			T.			.12	T.	T.				T.			3.84
Highmore	Missouri	T.														.22	.22							.06	.02				.01			0.53
Hopewell	Cheyenne							.15								.15	.68							.05								1.03
Hot Springs	....do	.20		.50					.30						T.	T.	1.50			T.				.30								2.80
Howard	Missouri		.43	.18						T.	.46									T.				.25	.02				.09	.05		1.48
Howell	James	T.	T.	.08				.02		T.					T.	.11	.13	.01		T.				.09	.03				T.	.04		0.51
Huron	....do		.12	.23							T.					.01				T.	T.			.17	.02				.08	T.		0.63
Ipswich	....do			.17		T.	T.	.17			.06				T.	.08	.32			T.				.06	.04							0.90
Kadoka	White	.02		.64		.02	T.								.41	T.	.08	.29		T.				.05		T.				.02		1.53
Kennebec	Missouri								T.							.19	.20	.22						T.								0.61
Kimball	....do	.11	T.	.12													T.			.01				.08	.03					.18		0.53
La Delle	James		.22	.30							T.									T.			T.	.11	.05					.03		0.71
Lead	Cheyenne						.04	.30							.10	.10	2.35			.10			.17	T.	.08							3.24
Marion	Missouri		.46								.43									T.				.75	T.					T.		1.64
Marston	....do			T.			T.	T.	T.							.15	.95							.05		T.				T.		1.15
Meadow	Grand		T.			T.	T.								.06		.56							.30	.01							0.93
Mellette	James	T.	T.	.02		T.	T.	.01			.07				T.	.08	.23			T.	T.			.12	T.					T.		0.53
Menno	....do		.20							.80										T.			.43	.05								1.48
Milbank ‖	Minnesota		.13	.64	.14						.11	.44					.03							.20	.23					T.		1.92
Mitchell ‖	James		.20	.20						.18														.20	.07					.07		0.92
Mobridge	Missouri					.04	T.									.06	.54							.15								0.79
Murdo	White															T.	.50															0.50
Oelrichs	Cheyenne								.60									1.40						.30								2.30
Onaka	James		.25			.10									.10		.22	.26					.15	.10								1.18
Onida	Missouri			.04												.10	.76															0.90
Orman	Cheyenne							.11	.04	.01					.11	.18	1.87							.41	.05							2.78
Ottumwa	Missouri																															
Parkston	James	.42	.30				.40																.25									1.37
Pearl Creek	....do																															
Pierre	Missouri			.06											.08	.20	.22							T.					T.			.56
Pine Ridge	White	.27		.11					.03							.62		.01		.04			T.	.17								1.25
Plankinton	James		.52	.08							.05													.23	.17					.06		1.11
Pollock ‖	Missouri						.04	.01			.01						.05	.20						.08	.18	.06						0.63
Rapid City	Cheyenne		.01			T.		T.	.02						.07	2.08	2.76		T.				.08	.05	T.							5.07
Redfield ‖	James			.02												.12	.38							.06	.04					T.		0.62
Rochford	Cheyenne							.25							.10	.15	1.87								T.							2.37
Rosebud	White		T.	.16												.49	.25	.04						.01					T.			0.95
Roslyn	Big Sioux	.32	.07	.53							T.					T.	T.							.55								1.47
Selby	Missouri																															
Sioux Falls ‖	Big Sioux		.05	.16								.05								.09				.70					.08	.17		1.30
Sisseton ‖	Minnesota																															
Sorum	Owl		T.			T.			.04	T.				.16			1.16							.64	T.							2.00
Spearfish	Cheyenne							.18							.20		2.78			T.			T.	.46	.08							3.70
Stephan	Missouri	T.													T.	.08	T.			T.				.20	T.					T.		0.28
Tama	Cheyenne																															
Timber Lake	Grand			T.	T.	.01	T.									T.	.93		T.					.26	.01	T.						1.21
Tyndall	Missouri		.13	T.						.04	.93									.03				.41	T.				.01			1.55
Vale	Cheyenne							.16		T.					.17	.25	2.42						.01	.28	.01	.01						3.31
Vermilion	Missouri			.08																T.				.31	.25				.21	.03	.05	0.93
Waters Ranch	Cheyenne							.16							.18	.31	2.97						.10	.52	.06							4.30
Watertown ‖	Big Sioux		.07	1.46	T.						.03	.42				T.	T.							.14	.12		.02		.02	T.		2.28
Wentworth	....do		.88	1.20							.42													.43					.18			3.11
White Lake	Missouri		.21																				.15	.17						.20		0.73
Winner	White																															
Wood	....do		.14	.05					.13							.40	.46	.24														
Yankton	Missouri		.03		T.					.60	.05									.01			T.	.47	.01				.01			1.42
Minnesota.																																1.18
Pipestone	Big Sioux		.88	1.20							.22									.18				.40	.07				.08	.04		3.0

TABLE 2.—*Daily precipitation for September, 1913. District No. 6*—Continued.

Stations.	Watershed.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Colorado.																															
Arriba	Republican	T.							.14		T.						.13							.10				.03	.19	.02	T.	0.61
Auldhurst	South Platte	.02	.20	.01	T.			.15	.31	.10	.01	.74	.02		T.	.30	.16						.02	.11	.30	.05					2.50
Bennett (near)	do		.14			.16										.12	.48						.04	.31	.19				.47		1.91
Boulder	do		.05						.27	.11	.05	.64					.48						.03	.28	.53				.18		2.62
Burlington	Republican										.28						.65						.04	.30			.22	.14			1.63
Cassells	South Platte	.19		.02	.09	.02	.03	T.	.50			.40			.05		.20						.10		.40	T.					2.00
Castle Rock	do			.50	.10				T.			.19	.01		T.	.04	.38						T.	.33	.31	T.	T.			.65	2.51
Cheesman	do	.15	.28					.15	.42	T.		.22	.07			.18	.25						T.	.04	.23	T.					1.99
Cheyenne Wells	Smoky Hill																.75							.13			T.	.22	.13		1.23
Denver	South Platte	T.	.01	T.	T.	T.			.10	.11	.04	.75			.02	.17	.15						.08	.49	.41				.25		.06	2.64
Edgewater	do		.12		.02				.04	.18		.14			.10		.30						.11	.20	.63				.22			2.06
Estes Park Fish Hatchery.	do	.40	.05	.08	.05	T.	T.	T.	1.05	T.	T.	.39		T.	T.	.25	.19							.15	.80				.08			3.49
Fort Collins	do																														
Fort Lupton	do	T.	.25					T.	.40	.02		.03			.38	.53								.30	.30				.32			2.53
Fort Morgan	do	.61							.28								.43							.25				.35				1.92
Frances	do	.18	.14	T.	.75	.19	T.		1.90	.02	T.	.25			.09	.17	.44						.09	.15	.42	.02			.05		.02	4.88
Frys Ranch	do	.05	.18	.02		.15	.05		1.02			.06				.06	.04						.16	.18	.26				.13			2.36
Georgetown ‖	do	.09	.56	.25	.02	.06	.41	.45	.09	.03	.06	.58	T.		.24	.27							.13	.44	.03			T.	T.		.76	4.47
Greeley	do																														
Grover (near)	do	.16	.25		T.			.01	.09		T.				T.	1.00	.50						T.	.18	.10	T.			.17			2.46
Hartsel	do	.25				.05	.53	.36				.24			.11								.15		.10	.05		.04			.62	2.50
Hawthorne	do	T.	.10						.15	.82		1.14				.06	.43						T.	.34	.47				.17			3.68
Holyoke (near)	Republican			.03													.27	.17		.01			T.	.28	.11			.17	.31			1.35
Idaho Springs	South Platte	T.	.17		.20	.02	.01	.01	1.29	.04		.36	.17	.01		.14	.26						T.	.14	.28	T.						3.10
Julesburg	do									T.	.94						.36											.04			1.34
Kersey	do															.52	.20	.40						.45	.15				.50			2.22
La Porte	do																														
Le Roy (near)	Republican	.04		.05						.04						.26	.29	.03		.05			.05	.07	T.			T.	.20			1.08
Longmont ‖	South Platte																														
Longs Peak (near)	do																														
Merino	do	T.	.40													.60					T.			T.				.55				1.55
Moraine	do															.42								.47								0.89
Platte Canon	do																														
St. Cloud	do	.10	.07	.04	.02		T.	2.24	.11	.02	T.	.01			.02	.11							.19	.43	.09				.13			3.58
Sedgwick	do	T.	T.	.50	1.00			.25			1.10						.90	T.		T.			1.00	.01				.20	.10			5.06
Silver Lake	do	.19	.27		1.29	.10	.01		1.00	.01	.04	1.20	.02		.03	.10	.30						.02	.09	.32				.24			5.23
Spicer (near)	North Platte																														
Sterling	South Platte	.03	.23							.14						.87							.03	.04				.22				1.56
Waterdale	do																						.30		.70				.23			1.23
Wray	Republican									.16							.31	.09						.23				.15	.14			1.08
Yuma	do	T.	.33						T.	1.16							.21	.16						.42				.04	.12			2.44
Nebraska.																															
Ainsworth	Niobrara		T.						T.		T.						1.53	.16		.11				.21					.18			2.19
Albion	Loup		.09							.59	.13						.11							.29	.52					.13		1.86
Alliance	North Platte		T.	T.						T.						.50	.20			T.												0.70
Alma	Republican	.04						T.	T.		.70						.10	.08	.01	.02				.02	.92			T.	.24	.50		2.63
Arcadia	Loup	.50	.16							1.76						T.	.08						T.	.24	T.		T.	T.	T.			2.74
Arden ‖	do	.05								.98							.15			.06			.30	.20	T.			.05				1.79
Ashland	Platte		.17							.01	.21	.02					.09	.25	.05	.07				T.	1.57	.11			.78	.34		3.67
Ashton	Loup		.33	.17					.13		.85							.13		.03				.24	.21				.13	.31		2.53
Atkinson ‖	Elkhorn		.30								.52									T.				.28	T.				T.			1.10
Auburn ‖	Missouri									1.01	.12	.76	.28				.02		.01		.20				.13	1.38			.25	.05	.40	4.61
Aurora	Blue			.05																					1.23		.15	.43				1.86
Beatrice ‖	do			.23							.41													.75	.85				.58	.18		3.00
Beaver City	Republican	.05								.15	.07						.37							T.	.35				.67	.24		1.90
Bellevue	Missouri		.25						.37		.43	.25					.37	.16		.10				.02	2.18	.34			.37	.30		5.14
Benkelman	Republican									.35						1.25								.23				.61	.10			2.54
Bertrand ‖	do		.10	.03							.09						.03	.11						.04	.09				.35	.11		0.95
Blair	Missouri		.09						T.			1.98					.12	1.12		.10				T.	1.34	.11			.60	.57	.02	6.05
Blake	Loup		.01	.30							.27	1.03					.22			.05				.13	.12				.05	T.		2.18
Bloomfield	Missouri		.09								.67									.05				.45	.05							1.31
Bradshaw ‖	Blue		.12						.05	.12	1.50	.03						T.	T.	T.	.03			T.	.88	.41	.16			.56		3.86
Brewster	Loup		.10	.03						T.	.03	.02					.10	.15		.03				T.	.03				.07	.13		0.69
Bridgeport	North Platte		.17	.52						T.					T.	.30	.08							T.		T.	T.	T.				1.07
Broken Bow ‖	Loup		.10							1.11							.53						.10	.34			.15					2.33
Bruning	Blue		.15						.07	.02								T.		T.					1.52				.26	.09		2.11
Burge	Niobrara	T.		T.																											T.
Burwell	Loup		.15							2.18							.15						.09	.20					.05	.09		2.91
Butte	Niobrara		.12	.47							.28									.08				.32	.03				T.			1.30
Cairo	Platte		.48						.03		.66													10	.92				23	.42		2.84
Callaway	Loup									.46							.42		.30							.48			.14			1.80
Cambridge	Republican	T.	T.							.40	T.	T.					.24	.06		T.			T.	T.	T.			T.	.10	.38		1.18
Columbus ‖	Loup								.47		.07							.06			.04				.63	.41			.11	.30	.07	2.16
Crete	Blue								.39		.89	T.												2.00					.38	.26	T.	3.92
Culbertson ‖	Republican		.09	.05						.12	.40						.24	.22						.04	.18				.27	.02		1.63
Curlv	North Platte								.10		.08				.70	.30													.18			1.36
Curtis	Republican		T.	T.				.54		T.	.13	.03	T.				.77	.09		T.				T.	.41			T.	.11	T.		2.08
Dalton ‖	North Platte			.70							.70						.49	.26														2.15
David City	Blue		.68					.38	T.	.10	T.						.10			T.				1.04				.19	.32	.01	2.82
Du Bois	Missouri									.27	.60	2.24					.06	.05		.24				1.55	.76			.41	.33			6.51
Dumas	Loup		.02	.50						.50	1.19						.11							.16				.07	T.			2.71
Elm Creek ‖	Platte		.08													.12							.30	.25				.27				1.02
Elsie ‖	Republican	.20							.62		.39						1.25	.41	.01		.02			.03	.21				.25				3.39
Ericson (near)	Loup		.13	.27						.27	.65						T.							.30						T.		1.62
Ewing ‖	Elkhorn		.16	.04					.20	1.14							.03			.03				.25	.07				.02			1.94
Exeter	Blue		.37					.21	.14	.07	T.														1.46				.14	.20		2.59
Fairbury ‖	do		.44						.11	.31	.03									T.			1.72	.46			.40	.09				3.56
Fairmont ‖	do		.37							.07	.26	.30						.08		.02				.88	.61			.25	.26	.10		3.20
Falls City	Missouri									.30	.98	.64					.05	T.		.26			T.	.34	.66			.35	.34			3.92
Fort Robinson ‖	White		.10													.60	.30	.50		.05	T.			.15	T.			.02		T.		1.72
Franklin ‖	Republican							T.	.06	1.09	.02						.15			.02				.86	.15			.26	.59			3.20
Fremont	Platte		T.						.18		.94						T.			T.				T.	1.34				.38	.22		3.06
Fullerton	Loup		.60							.40	.15						.25				T.				1.54	.25						3.19
Genova	Blue		.15					.08	.09	.09	.54							.04		T.				1.49				.28	.17			2.93
Genoa	Loup	T.	.04						T.	.09	.84						.07			T.				.02	1.00				.07	1.35		3.48
Gordon	Niobrara			.52					.04							1.15	.19			.08					.20							2.18
Gosper	Republican	.12						.14		.95		.75					.28			.02					.05			.28	.05			2.64
Gothenburg	Platte		.02							.07							.21	.06		T.				.02	.42				.15			0.95
Grand Island ‖	do		.17						.22		.03	T.						T.			.02						22		13	.25		1.04

TABLE 2.—*Daily precipitation for September, 1913. District No. 6*—Continued.

Stations.	Watershed.	Day of month.																												Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Nebraska—Contd.																																
Grant	Republican	.19						.08	T.	.35							.40	.42					.08	.29				.33	.08			2.22
Greeley	Loup									.69							.06			.02			.34		.21			.05	.02			1.39
Guide Rock	Republican		.40					T.		.45							T.								1.50				.28	.12		2.75
Haigler	do									.76						.56								.21				.20	.20			1.93
Halsey	Loup		T.														.47	.54							.13				.01	.10		1.25
Hartington	Missouri		.04	.03							.58										.15	T.		.38	.16				.05	.03		1.42
Harvard	Blue																															
Hastings	do		T.							.20	.05							T.							.95	.13			.24	.46		2.03
Hayes Center	Republican							.05	.19	.26						1.05	.10							.31				.40	.05			2.41
Hay Springs	White		.35					T.							T.	.84	.48			T.				.24								1.91
Hebron	Blue		.50							.21	.01							T.		T.					1.96				.25	.10		3.03
Hemingford	Niobrara		.09													.58	.30	.10		.01				.15								1.23
Hendley	Republican									.14	.06					.46								.04	.20							0.90
Hershey	South Platte								T.		.18						.73	.33			T.				.09							1.33
Hillside	North Platte	.03	.11	.21					.04		.32						.17			.14				.03	.13			.05	.02			1.25
Holdrege	Republican		.03	.22					.18		.35														.35	.10			.27	.44		2.84
Hooper	Elkhorn		.12								.08									.07					.73	.42			.35	.05			1.82
Hull (near)	North Platte	.36		.30						.60					.62	T.	T.					.32									.10	2.30
Imperial	Republican							T.	T.	.07						T.	.65	.12		T.			T.	.10				.39	.12			1.45
Kearney	Platte		.45							.41	.23									T.				.09	.55				.15	.10		1.98
Kimball	South Platte		.85	T.	T.			T.	T.						.21	.21							T.						.42			1.69
Kirkwood	Niobrara		.10	.10						T.							.06			.11			.15	.05								0.57
Kowanda	North Platte		T.	1.08					.15		.59						.57	.12						.02	.02				.16			2.71
Lexington	Platte		.04							.67							.34	.07		T.				.02	.14				.22			1.50
Lincoln	do		T.						.10	.26	.35						.01	.14		T.				.08	1.74				.47	.15		3.30
Lodgepole	South Platte		T.	1.14				.03			1.81					T.	.46	.07						.03	T.			T.	.31			3.85
Loup City	Loup	.65	.47							.57							T.			.07			.23	.15					.25			2.39
Loyal	do																															
Lynch	Missouri		.33	.55																T.				.32	.10				T.			1.30
McCook	Republican									.62	.08					.08	.32							.03				.19	.05		.20	1.57
McCool Junction	Blue		.17					T.	T.	.15	.08					T.	.04		T.					.94	.64			.15	.29	T.		2.46
Madison	Elkhorn										.40						.02			T.				T.	.78				.25	T.		1.45
Marquette	Blue	.09							.65	.52	.06						T.	.02		T.					1.05				.03	.12		2.54
Mary	Loup		.19	T.	T.						.02						.66	.02		.03				.15					.05	.10		1.22
Mason City	do	1.75		.03												.05							.15		.15							2.13
Minatare	North Platte	.21	.03							.01					.31	.12	.03							18				.12					1.01
Minden	Blue	.08	.03						.03	1.45	.22						.03			T.			.05	.35	.56			.03	.31	.01		3.15
Mitchell	North Platte			.36							.02					.35	.18						.04	.23					.03			1.21
Nebraska City	Missouri								22			1.18				.11					T.				1.96				.31	.56		4.34
Nelson	Blue	.13							.04	.08														1.60				.40	.16			2.41
Norfolk	Elkhorn		T.														.09			.07				.12	.56				.06	.60		2.87
North Loup	Loup		.18	.42						.10	.65						.05	.25		T.				.20					.05	T.		1.90
North Platte	Platte		.01					T.		.01	T.					T.	.61	.09		T.			T.	.12	.03			.02	.01			0.90
Oakdale	Elkhorn		.04							.80		T.					.04			.07				.42	.06				.08	.03		1.54
Omaha	Missouri		.06						.03	T.	.42					.09	.23	.22		.05				.05	1.91	T.			.44	.12		3.62
O'Neill	Elkhorn		.20	T.							1.11							T.			T.			.13	T.				T.			1.44
Ord	Loup	.07	.26							.53	1.30							.20						.14	.10	.15		.07		.07		2.89
Orleans	Republican									.63	.15						20						.04	.73				.34	.63			2.72
Osceola	Blue		.38							.57															.80				.22	.48			2.45
Oshkosh	North Platte	.11		1.02				.66		T.	.22						.30	.02					T.	.62				.07	.06			2.48
Palisade	Republican		.04						.22								.65								.22		.30					1.43
Pawnee City	Missouri									.18		1.30					.05	.07		.30					1.40				.30	.40		4.00
Paxton	South Platte		.15								.45						.98	.30		T.				.18	.10				.07			2.23
Plymouth	Blue											.28													1.93			.43		.17		2.81
Purdum	Loup		.01	.08	.48						T.						.51	.03		T.				T.	.11				.03	.07		1.34
Ravenna	do		.31						T.	.68	.19						.05			T.				.17	.37				.25	.10		2.12
Red Cloud	Republican		.42					T.	.04	.35	.01						T.	T.		T.				T.	1.80				.20	.82		3.64
St. Libory	Platte		.57							.05	.23	.01						.03	.01						.12	.89			.15	.17		2.23
St. Paul	Loup		.50						T.	.27							T.			.06					.72				.15	.20		1.90
Santee	Missouri									T.																						T.
Schuyler	Platte		.58						25		.04						.15			.05					.85				.21	.70		2.83
Scottsbluff	North Platte	.01	.25	.32						.02	.01					.23	.10						.05	.25					.03			1.27
Seward	Blue		.14						.32	.02	.98						.01	.11		T.					1.41				.22	.05		3.26
Sidney	South Platte		.07	.75						.08							.75	.05						.10					.23			2.03
Springfield	Platte			T.						.38	.98						.04	.16		T.	.21			1.36	1.04				.32	.16	.05	4.70
Springview	Niobrara	.05															T.			T.					.04					.10		0.19
Stanton	Elkhorn										T.						T.	T.	T.						.76				.17	1.20		2.13
Stapleton	Loup			.01						.50							.55	.12														1.18
Stratton	Republican										.37						.72	.05						.11					.34	.13		1.72
Superior	do																									1.30	.65		.38			2.33
Syracuse	Missouri								T.	.16	.15	.25					.06	T.		.11					1.84	.30			.36	.10	T.	3.33
Table Rock	do								.16	.53	.12	.29					.07	T.		.28				T.	1.21	.42			.38	.51		3.97
Tecumseh	do									.20	1.70	.20					T.	T.	T.	.11					1.75				.56			4.52
Tekamah	do			.02								.56					.10	.12			.10				.65	.55			.55	.17	.93	3.75
University Farm	Platte								1	.28	.27	.06					.01	.15						1.89					.54	.19		3.50
Valentine	Niobrara		.17	.03					.20	T.							.72			.01				T.					.02			1.15
Wahoo	Platte		.13							.15	.94														1.71				.50	.65		4.08
Wakefield	Elkhorn		.06	.35													.16			.09				.18	.58	.25					.13	1.80
Walthill	Missouri		.15								.07	.21					.04			.28					.67				.25	.15		1.82
Watertown	Platte	.68	.07							.37													.17		.12			.29				1.70
Wauneta	Republican		.25							.15							.80	.05						.25				.45				1.95
Weeping Water	Missouri		.02						T.	T.	.76	.43					.03			.16					2.34	.33			.46	.31		4.84
Westpoint	Elkhorn		.18						.22		.50						.10			.45					1.42				.22	.33	.10	3.32
Wisner	do								.01											.10					.68				.23	.10		1.12
York	Blue		.27					T.	.27	.07	.06							T.		.03					1.34				.21	.38		2.63
Iowa.																																
Afton	Grand									.03	.04	2.11					.07			.21				T.	.14	.32			.27	.13	.09	3.41
Allerton	Chariton											.43					T.	.08		.20	.28			T.		.13			.09			1.21
Alton	Floyd			.03							.28									.02				.04	.40				.36	.02	.12	1.33
Atlantic	Nishnabotna			.01					.02	.01	.58	.46					.15	.07		.12				.01	1.46	.34			.22	.30			3.75
Audubon	do								.32		1.30	.23					.25			.33				.03	1.85	.22			.20	.31			5.04
Bedford	Missouri									T.	.18	.72				.05	.22	.01		.34				T.	.11	.33			.33	.92			3.21
Centerville	Chariton										1.20	.10					T.	.07		.28												1.20	2.85
Charlton	do					T.						.20					T.									.95							1.15
Clarinda	Nodaway										.21	3.76	.24				.15	.02	.19	.40					.11	.90			.09	.15	1.22	7.44
Corning	do								T.	T.	.56	1.46				T.	.15		.10	.47					.43	.43			.34	.76	.02	4.66
Corydon	Chariton									T.		.50				T.	.10	.26		.12	.36			.01	.02	.13			.07	T.	T.	1.57

TABLE 2.—*Daily precipitation for September, 1913. District No. 6*—Continued.

Stations.	Watershed.	Day of month.																												Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Iowa—Continued.																																
Council Bluffs	Missouri		.25	T.					.26		1.55	.05				T.	.33	.20							1.74	.26				.27	.55	5.46
Creston ‖	do									T.	.30	1.03	.42				.08	.02			.15			T.	.12	.52			.01	.28	.13	3.06
Cumberland	Nodaway								.30	.28	.40	1.01								.55					.48	.51			.32	.86		4.71
Denison	Missouri			.15						T.	.42	.02					.30	.05		.17					1.41	.15			.33	.04		3.04
Elliott	Nishnabotna								.20	.09	1.66	.86					.23	.18		.21					.97	.62			.26	.30		5.58
Greenfield	Nodaway								.15	T.	.30	.57					.04	.20		.32					.28	.30			.58	1.00	.05	3.79
Harlan	Nishnabotna		.27						.13	T.	.92	.46				T.	.23	.29		.28	.05			T.	1.74	.23			.34	.05	.01	5.00
Inwood	Big Sioux		T.	.17																.02				.17	.24				.39	.01		1.00
Lake Park	Little Sioux			.50						.38	1.43									.20				T.	.70	.15			.55			3.91
Lamoni	Grand									T.	T.	1.34				.01	.06	.11		.70				.01	.02	.50			.21	.01	.01	2.98
Le Mars	Floyd		.03	.05							T.									.02				.01	.47	.01			.32	T.	.25	1.16
Lenox	Missouri									.03	.40	1.96				.05	.13			.15	.08				.23				.50	.38	.07	3.98
Leon	Grand									T.	T.	.58			T.		T.				.40				1.09				.10	T.	T.	2.17
Little Sioux	Little Sioux			.05					.05		1.03	.05					.21	.08		.10					1.10	.12			.50	.21	.24	3.74
Logan	Missouri		.07	.25					T.		.54	.22					.38	.16		.18					1.47	.20			.45	.05	.05	4.02
Mount Ayr	Grand										.14	.74				T.	.21	.03		.41	T.			T.	.03	.40			.28	.01	.41	2.66
Murray	do									.09	.01	1.60				.05	T.	T.		.32	T.				.09	.33			.20	.16	.05	2.90
Northboro	Missouri										.48	.73					.05	.02		.40					.68	.52			.32	.55		3.75
Odebolt	Little Sioux			.18							.77												.55	.06	1.15	.20		.27	.05			3.23
Onawa	Missouri		.05						.03		.11						.17			1.05				.05	1.10	.08			.57	.10	.15	3.46
Pacific Junction	do		T.						T.		.13	.06					.35	.10		.12					1.97	.29			.65	.53		4.20
Rock Rapids	Big Sioux		T.																					T.	.45							0.45
Sibley ‖	do			.07							.03	.49									.15			.06	.30	.20				.69	.02	2.01
Sioux Center	Floyd		T.	.22							.02									.12				T.	.50				.48			1.34
Sioux City	Missouri		.04	.03							.01						.06			.11				.04	.45				.25	.03	.11	1.13
Spencer	Little Sioux			.20							.63									.77					.85	.13					.20	2.78
Thurman	Missouri		T.						.09	T.	.24	.38				T.	.03			.39				T.	1.50	.44			.38	.41		3.86
Washta	Little Sioux		.10	1.00							.25						.07			.65				.08	1.03				.70	.10		3.98
Kansas.																																
Abilene ‖	Smoky Hill		T.							1.12	.04	.62	.02					1.14	1.20						.06	1.14			.60			5.94
Agricultural College	Kansas								.22	.11	1.05	.10				T.	.06	2.41		T.				.06	1.08	.14			.45	.01		5.69
Alton	Solomon		T.						T.	.07	T.						T.	.47		T.					1.25			T.	.32	.04		2.15
Atchison	Missouri									.28	.05	.90				T.	.20	.56		.35					.46	.50			.43	.03		3.76
Beloit ‖	Solomon		.25							.35	.02	.01						.62							1.16	.31			.44	.22		3.38
Blakeman	Republican									.10	.85						.76								.02			.31	.27	.04		2.35
Blue Rapids ‖	Blue							.04		.02	.07	1.17					.02	.02							.10	1.60			.47	.02		3.53
Centralia	do								.41	.01	.73	1.30					.05	.21	.01	.03					.65	.65			.36	.12		4.53
Chapman	Smoky Hill																															
Clay Center	Republican								.15	.04	.22	.08	1.05					.35						.18	1.38	.26			.50	.05		4.26
Colby	do	.10						T.	.03	.03	.83	.14					.76	.05						.20				.30	.23	.02		2.69
Concordia	do		T.						.03	.75	.01					.02		.19	T.					.37	1.17			.27	.09	.13		3.03
Densmore	Solomon	T.							.08	.06		.07	.04				.25	.07							.95			.12	.58	.16		2.38
Dresden ‖	Republican										.50	.75						.79			.02			T.	.32	.03			.40	.31		3.12
Ellsworth	Smoky Hill	T.								.11	.72	.03				T.	.05	1.30							1.78			T.	.58	.18		4.75
Emmett	Kansas									T.	1.30	T.					T.	.86						T.	1.04				.28	T.		3.48
Eskridge	Osage								.20	.16	.70	1.85				T.	.12	.80	.17		T.					1.10			1.40			6.50
Farnsworth	Smoky Hill							T.		.10	.09	.05					.69	.58					T.	T.	1.33			.48	.32			3.64
Fort Scott ‖	Osage									.14	.40	.07	.48	T.			.16				.60					T.	.03		.36			2.24
Frankfort	Blue									T.	.48	1.14						.24		T.				T.	1.84				.28	.16		4.14
Garnett	Osage					.07			.03	.29	T.	.73			.02				T.						T.	.19			.26			1.59
Goodland	Republican																															
Grainfield	Saline		.04							.31	.11	.28					.76	.34					T.	1.10				.37	.38			3.69
Hanover ‖	Blue			T.						T.	.10	.67							T.		T.				.42	1.48			.50	.12		3.29
Harrison	Republican		.10					.06	.04	.49	.13							.05							1.53				.36	.12		2.88
Hays ‖	Smoky Hill			T.					T.	.13	.06	.12						2.05	.09						1.59	.11			.55	.10		4 80
Hill City	Solomon								T.	.14		.06				.34	.19						T.	T.	1.30			.19	.32			2.55
Holton	Kansas								T.	T.	1.40	.20					.37	1.05		.35					.10				.40	T.		3.87
Horton ‖	do									.02	.14	2.60	.87				.09	T.	.72		.13				.05	.75			.38	.02	.02	5.79
Hoxie	Solomon							T.		.22	.03	.80					.37	.10							.62			.26	.58	.08		3.06
Lawrence	Kansas							T.	.01	T.	1.73	.28				.22	.04	.09							.45				.45	T.		3.27
Leavenworth	Missouri									.10		1.55	.25				.10	1.25	.07		.06					.60				.05		4.03
Lebanon	Solomon																							1.40					.22	.11		1.73
Lenora	do	T.					.04		.02	.33		.23					1.21								.82					.67		3.32
Leoti	Smoky Hill							.03	T.	T.		.04					1.03	T.						.37	.36			.70	.01			2.54
Lincoln	Saline								T.	.42	.05					T.	.06	.36							1.73				.52	.10		3.24
Lindsborg ‖	Smoky Hill								.17	.24	T.						1.10	.18							2.05			1.20				4.94
McCracken	do								T.	.05	1.10	.01					.62	2.70							1.68			.31	.29			6.76
Manhattan ‖	Kansas									.20	T.	1.20	.05				.05	.43	1.73						.10	1.28			.40	.08		5.52
Minneapolis	Solomon								.32	.82	T.	T.						.55							1.31				.54	.11		3.65
Moran	Osage								T.	.20	T.	4.20	.16			T.				.15				T.		T.			.27			4.98
Natoma	Saline																															
Norton	Republican		T.					T.	T.	T.	.12	.10					.19	.10					T.	T.	.80			.13	.64	.11		2.19
Oberlin	do							.02	T.	.01	.43	.24					.56	.11							.06			.21	.38	.15		2.17
Oketo	Blue		T.						T.		.41	.40				.33				.04					1.55	.40			1.00	T.	.07	4.20
Olathe	Kansas								.16	.01		.76				.16		.17		.13				T.		.09			.28			1.76
Oskaloosa	do												1.39	.16		.31		.67	.14	.14						.60			.45	T.		3.86
Ottawa	Osage								.02	.09	.03	.95	.04			.02	.10									.25			.33			1.83
Phillipsburg	Solomon							T.	.05	.85	.02	.05		.10			.10	.09	T.					T.	1.23			T.	.33	.48		3.30
Plainville	Saline																															
Pleasanton	Osage									.56	.03	.89	.50			.08			.10	.10						.05			.20	.04		2.55
Quenemo	do								.47	.05	T.	.67					.08	T.		T.				T.		.48			.45			2.20
Republic	Republican	T.	.03							.25							T.	2.00							1.85				.27	.07		4.47
Russell	Smoky Hill		T.							.71	.04						.75	.35							1.52				.37			3.74
Russell Springs	do								.25	.90							.73	T.					T.	.35				.50	.05			2.78
St. Francis	Republican							T.	.01		.85						.70	.04							.28			.29	.28			2.45
Salina	Smoky Hill	T.								1.12	.07	.02					T.	1.86							1.57			T.	.94	.03		5.61
Scott	do									.80	.51	.07					.63	.09							1.00			.63	.32			4.05
Smith Center	Solomon		T.							.72							T.	.01						T.	1.71			T.	.32	.33		3.09
Topeka	Kansas								.12	T.	.96	2.17				.24	T.	.40		.23				T.	1.34	.02			.50	T.		5.98
Tribune	Smoky Hill		T.						.20	T.							1.60							.33	.07			.50	T.			2.70
Valley Falls	Kansas								T.	T.	.10	.60					.05	.80		.10				T.	.02	.87			.42	T.		2.96
Vinland	do	T.							.22		.24	1.28				.04	.18	.50		T.						.38			.36			3.20
Wakeeney	Smoky Hill									1.05	.05	.18					.05	1.05							1.37			.13	.27	.03		4.18
Wallace	do										.04						.51							.24				.50	.11			1.40
Wamego	Kansas								T.	.01	.15	.10				T.	T.	1.90		.04					1.60				.20	T.		4.00

TABLE 2.—*Daily precipitation for September, 1913. District No. 6*—Continued.

Stations.	Watershed.	Day of month.																												Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Missouri.																																
Amoret	Osage							T.	T.	.46	.14	.55	.86			.10	.02	T.						T.		.12			.30			2.55
Appleton City	do							.17				.60	.70												.65				1.05			3.17
Arlington ‖	Gasconade					.05				.05		.65	2.05	.10		.25				.65	.34						.62		.45	.10		5.31
Arthur	Osage								.25	.50		1.20	1.40			.32	T.	T.		.12						T.			.57			4.36
Avalon	Grand									.10		2.40	.04				.40	.15		.95									.22			3.86
Bagnell	Osage																															
Bethany	Grand																															
Bolivar	Osage							T.	T.	.19		.35		2.00		.16	.04	.09		.60						.30	.14		.57			4.44
Boonville ‖	Missouri									.05	.02	1.15	1.73				.42	.05	.80		.78				.02				.10	T.		5.12
Brunswick ‖	Grand											.76	1.30				.21	.04	.11		.48						.03		.44	T.	.02	3.39
Clinton	Osage								.60	.15		.70	.60			.30	.22	1.70		.35	.23								.63			5.48
Columbia	Missouri								T.		.07	1.30	.22			.29	.63	.29	T.	.86	T.					.02			.72			4.40
Conception	do									T.	.75	.47				.10	.04	T.	T.	.33				T.	.18	.42			.56	.04		2.89
Crocker	Gasconade								.13		T.	.46	.20			.31	.13	.37			.18					.17	.15					2.10
Duncan	Osage						T.	.06	.01	.56	T.	.33	1.30		T.	.59	.08	.10	.24		.60					.55	.41		.48	.01		5.32
Eldon	do					T.			T.	.10		1.64	1.98			.62	.25	.03		T.	.20					.23	.05		.90	T.		6.00
Fayette	Missouri								.95		.08	2.13	.07			.11	.35	1.26		1.25	T.		T.						.45			6.65
Fulton	do								.12				1.07				.93		.10		.67					.15	.05		1.07			4.16
Glasgow ‖	do											.68	1.06				.28		.18	.22	1.08	.06							.32	.02		3.90
Grant City	Grand									T.	.22	.33				T.	.20	T.	T.	.97	.05				T.	.65			.35	.04	T.	2.81
Harrisonville ‖	Osage									.34	.22	.72	2.26			.05	.20		.13		.17					.02			.44	.02		4.57
Hazelhurst	Grand										T.	1.24				.05	.28	.06		.37	.02			T.					.17	T.		2.19
Hermann ‖	Missouri							.04		.08			3.38	.04		.05	.68	.04	.41		.35	T.				.24			.19	.65		6.15
Houston	Gasconade						T.		.18	.14	T.	.30	1.93		T.	.57	.20	.24	.25		.43					.93	.60		.24			6.01
Jefferson City ‖	Missouri									.23		1.05	1.62	.01		.15	1.80	.02	.23		.70	.04					.28		.87	.17		7.17
Kansas City	do									.03	1.81	.60				.10	.01	.11		1.07						.06			.35			4.14
Kidder ‖	Grand										.27	.34	.27				.25		.11		.14				.02	.05			.09			1.54
Lamonte	Missouri								2.15	.05	T.	.80	.35			.80	.35	.10	.05	.50	.50					T.		.65				6.30
Lebanon	Osage									.45		.30	1.55			.90		.12			.34				.60			.60				4.86
Lexington ‖	Missouri									.01		.60	1.26				.17		.20		1.38					.02			.15	.05		3.84
Liberty	do									.44	.51	.92				.10	.06	.12		.49						T.			.26			2.90
Lockwood	Osage							T.	.19	.20	T.	.20	1.89					.55			.45					.24			.60			4.32
Marshall	Missouri								T.	.28		2.37	.06			.25	.80	.23	.08	.20	.82					.60			.54	T.		6.23
Maryville ‖	do										.23	.93	.27				.15	.02			1.20				.02	.44			.35	.15	.03	3.79
Mount Vernon	Osage									.80	1.25					.37	T.	.30			.90					.34	.20	.01	.33			4.50
Nevada	do								.07	.30	.13	1.40	.88	.24		.27	.03			1.32				T.					.55			5.19
Oregon	Missouri								.15	T.		1.75					.10	.20		.31					.50				.37	.03		3.41
Osceola	Osage																															
Pattonsburg ‖	Grand																															
Rolla	Gasconade								T.	T.		1.20	1.29			.17	.71	.40	.03		.21					.30	.37		T.			4.68
St. Catherine	Grand									T.	T.	1.75			T.	T.	T.	T.		T.	.58					T.			.02	T.	T.	2.35
St. Charles	Missouri								1.34				3.71			.49		.18	.82		.49						.50		.42			7.95
St. Joseph	do								T.	T.	2.10	.05				.08	.02	.51		.23				T.	.46	.21			.38	.02		4.06
St. Louis (1)	Mississippi								.03			.71	1.10		T.	.72	.55	.23	.13	.24	.08					.45	.05		.21			4.50
St. Louis (2)	do								.08			.98	1.18			.78	.64	.47	.11	.44	.08					.33	.06		.21	.02		5.38
Sublett	Chariton											2.00				T.	T.					1.25							.20		T.	3.45
Tarkio	Missouri											1.43							.51							.71			.26	.95		3.86
Trenton	Grand									.04	.70	.04				.21	.06	.04		.51						.07		.08	.04			1.79
Unionville ‖	Chariton											.55	.12				.10	.12	.03		.74				T.	T.	.10		T.	.25	.20	2.21
Warrensburg	Missouri								.07	T.	T.	2.00	.45			.31	.37	.10	T.	.43	.51					T.		.52	.01			4.77
Warrenton ‖	do							T.		.30			2.07				.56		.49		.51						.17		.34	.68		5.12
Warsaw	Osage					T.			.18	.06		.37	.58			.36	.13	.36	.10		.16					T.			.67			2.97
Wheatland	do								.05	.12		2.11	2.20								.10					.10		.90				5.58

* Precipitation included in that of the next measurement.
‡ Separate dates of falls not recorded.
‖ Precipitation for the 24 hours ending on the morning when it is measured.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 3.—*Maximum and minimum temperatures at selected stations for September, 1913. District No. 6, Missouri Valley.*

Date.	Wyoming.																Montana.											
	Basin.		Cheyenne.		Fort Laramie.		Lander.		Newcastle.		Pathfinder.		Sheridan.		Yellowstone Park.		Billings.		Dillon.		Havre.		Helena.		Lewistown §§		Malta.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1....	92	40	80	56	88	52	84	58	91	61	78	60	79	49	68	47	74	54	80	39	68	47	72	50	72	49	91	35
2....	90	44	77	54	83	47	82	51	85	62	77	60	83	44	57	44	78	43	76	34	80	41	78	42	77	47	83	45
3....	94	50	79	51	92	52	82	49	92	60	76	59	88	51	68	48	93	48	75	33	87	58	80	57	82	47	92	43
4....	96	48	80	54	93	54	85	49	94	60	74	55	90	48	72	44	96	45	81	40	92	48	86	50	90	47	96	42
5....	85	50	81	53	94	58	88	50	95	64	80	61	91	49	76	49	98	47	79	39	85	51	81	57	89	47	96	58
6....	90	50	83	57	95	54	82	53	92	64	77	59	78	51	78	43	82	46	76	41	73	47	77	50	73	41	90	36
7....	91	46	67	55	80	58	65	53	84	58	74	54	78	50	73	42	84	52	74	37	76	40	83	48	71	43	92	40
8....	92	46	74	51	87	55	76	52	80	55	79	56	87	62	65	51	93	52	74	38	85	51	76	55	81	31	91	34
9....	89	46	76	51	85	60	79	54	86	65	77	59	86	56	61	48	79	58	72	30	65	46	62	42	67	58	86	35
10....	89	45	72	49	79	47	78	40	88	54	77	47	72	42	66	34	72	42	70	29	68	41	66	39	61	32	85	33
11....	90	45	65	48	78	43	78	41	76	46	76	47	79	35	72	35	81	33	71	30	75	31	75	40	72	30	70	29
12....	88	40	71	43	87	39	80	44	80	50	78	48	81	39	74	35	88	35	71	36	86	38	85	45	81	34	80	30
13....	86	41	78	41	92	32	82	45	88	54	76	51	89	40	70	42	95	40	74	36	90	42	83	52	86	46	90	35
14....	85	38	72	50	80	50	70	47	78	56	74	57	75	50	64	45	80	53	76	35	64	40	67	52	90	41	93	30
15....	84	36	60	45	70	53	68	42	62	50	69	46	57	45	58	35	59	49	74	33	71	38	68	49	64	40	83	29
16....	83	31	52	40	55	45	65	36	55	42	57	44	63	34	66	29	71	30	75	36	74	37	73	41	72	30	75	40
17....	92	31	65	35	74	33	78	33	54	40	68	38	76	34	70	36	85	35	75	34	85	46	82	48	78	36	85	58
18....	84	30	79	38	93	35	80	38	80	50	75	52	76	40	67	42	84	41	76	35	74	49	68	44	71	44	86	34
19....	82	36	59	37	61	49	60	34	60	40	72	45	57	31	55	33	66	43	74	33	58	37	60	42	56	39	71	23
20....	85	38	62	28	65	31	73	26	60	31	67	33	65	29	68	28	77	27	68	31	71	28	75	35	72	29	70	25
21....	79	25	66	32	73	26	74	31	60	38	74	38	78	30	68	35	84	28	64	32	80	32	76	42	80	33	76	32
22....	78	26	62	36	70	36	60	32	50	36	68	42	60	36	49	29	55	40	60	29	63	42	53	35	40	38	75	43
23....	74	26	45	32	53	34	40	27	48	31	45	31	36	32	33	28	37	32	55	30	44	31	42	33	35	33	46	34
24....	76	28	40	27	50	29	34	24	36	30	36	26	41	25	39	23	53	29	66	28	53	25	50	34	47	24	46	34
25....	78	28	53	24	58	20	46	17	50	24	52	22	55	22	54	19	59	25	70	27	68	31	60	31	61	22	65	25
26....	80	30	58	28	68	21	58	25	60	30	62	28	66	29	66	27	73	39	70	30	72	39	72	38	73	27	78	30
27....	82	32	53	30	64	26	68	31	66	38	64	33	71	29	65	29	78	31	74	32	77	41	73	41	72	33	86	33
28....	80	34	48	37	68	44	72	35	65	40	63	41	73	32	68	29	82	32	73	32	79	44	75	42	77	37	84	31
29....	84	33	67	39	71	40	73	35	74	40	67	35	73	30	67	33	81	33	75	32	72	39	70	45	69	38	84	35
30....	86	25	61	37	73	34	55	43	75	42	66	44	66	38	62	38	73	37	76	31	68	38	67	47	69	38	81	39
Mns..	85.5	37.3	66.2	41.9	76.0	41.9	70.5	39.8	72.1	47.0	69.3	45.7	72.3	39.4	64.0	36.7	77.0	40.0	72.8	33.4	73.4	40.6	71.2	44.4	70.9	37.8	80.8	35.7

Date.	Montana.				North Dakota.										South Dakota.													
	Miles City.		Poplar.		Berthold Agency.		Bismarck.		Dickinson.		Jamestown.§§		Williston.		Aberdeen.§§		Ellingson.		Huron.		Kadoka.		Kimball.		Pierre.		Rapid City.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1....	88	60	94	52	83	57	82	57	79	59	86	54	70	53	104	63	81	56	101	64	95	75	100	61	98	66	82	64
2....	88	50	.....	.....	78	42	78	52	80	46	74	50	74	43	86	55	82	55	75	60	84	61	81	62	78	63	76	56
3....	92	65	.....	.....	80	54	77	54	82	57	71	51	70	51	85	57	87	52	94	64	97	62	90	53	95	64	94	62
4....	96	58	98	51	101	56	96	61	97	51	86	54	95	55	97	66	98	52	100	66	97	66	101	63	101	71	94	67
5....	98	58	100	51	93	63	100	62	93	67	90	53	96	65	100	65	96	62	102	65	101	64	101	65	104	66	94	65
6....	94	65	98	56	96	49	95	55	88	49	92	56	80	55	94	65	95	52	101	66	102	64	100	74	103	74	90	70
7....	82	54	82	51	79	45	71	49	74	47	69	54	70	41	78	65	74	47	82	57	84	61	86	67	81	61	70	51
8....	90	61	78	39	76	43	75	45	77	46	73	42	74	54	82	54	80	50	82	48	82	51	85	54	81	54	80	50
9....	82	64	80	64	91	64	88	63	86	68	76	47	81	59	88	52	89	54	85	62	88	57	87	61	87	66	86	65
10....	74	47	73	43	71	47	73	46	70	44	74	59	68	46	80	54	73	49	78	57	79	62	83	65	81	63	74	51
11....	82	40	85	32	78	24	75	37	77	28	72	40	73	38	80	42	78	33	77	41	80	46	77	49	78	46	76	45
12....	84	45	87	35	83	31	81	42	81	37	87	41	76	34	83	42	81	39	78	41	87	51	80	47	86	52	81	50
13....	94	45	95	47	87	34	81	42	87	40	72	41	85	50	88	45	88	47	90	51	94	50	91	46	95	50	91	50
14....	80	64	82	58	71	45	76	51	75	49	81	44	68	50	82	55	74	50	79	54	90	63	81	55	88	61	78	54
15....	64	52	65	38	74	31	70	43	67	34	74	44	66	38	70	54	68	40	63	55	67	55	72	56	62	57	61	47
16....	68	45	76	32	75	44	66	42	67	45	68	46	71	43	65	55	60	46	77	54	57	53	74	53	60	53	50	43
17....	83	48	88	40	77	31	73	35	72	34	72	35	77	42	75	46	70	38	75	54	71	50	79	55	72	52	70	38
18....	82	58	92	48	84	46	84	51	81	44	82	36	81	50	84	48	82	46	82	50	89	51	83	47	90	56	84	44
19....	68	48	62	45	70	42	63	42	70	46	54	47	54	40	60	54	65	42	66	43	71	50	74	48	67	50	63	48
20....	67	34	71	29	62	33	59	36	60	34	56	33	61	32	60	35	60	30	59	39	66	40	60	37	61	42	58	41
21....	74	36	76	28	63	23	56	32	64	27	52	27	62	28	60	30	67	27	57	32	67	34	63	34	66	37	64	39
22....	57	50	66	41	66	31	59	32	57	33	54	26	56	38	64	25	62	35	63	25	77	44	65	29	68	38	63	43
23....	50	34	54	35	55	31	48	33	52	31	40	30	44	32	45	30	58	36	58	42	71	45	63	42	58	42	55	36
24....	40	34	42	33	40	31	39	24	35	31	42	36	40	32	48	37	37	32	49	40	52	37	56	40	48	39	43	33
25....	58	28	65	26	59	27	54	34	54	32	43	34	60	32	50	33	55	31	50	30	51	27	53	28	55	33	55	30
26....	72	35	81	33	72	31	70	39	70	35	68	34	69	46	75	31	70	34	71	33	72	32	69	32	71	40	66	34
27....	75	41	83	33	79	36	76	42	75	35	75	35	77	43	81	33	73	37	75	36	73	32	75	37	77	39	69	38
28....	82	40	90	36	82	33	78	41	79	35	77	37	80	40	75	35	76	35	66	38	70	40	70	40	68	45	61	39
29....	80	38	93	35	82	31	77	42	78	34	74	38	80	37	65	45	74	39	65	50	72	46	65	50	62	52	69	43
30....	72	43	81	39	76	43	80	47	72	42	.....	40	70	41	.....	48	78	42	75	41	73	39	73	45	75	48	70	45
Mns..	77.2	48.0	79.5b	41.1b	76.1	39.9	73.3	44.7	73.3	42.0	70.1a	42.1	71.2	43.3	76.0a	47.3	74.4	42.9	75.8	48.6	78.6	50.3	77.9	50.2	77.2	52.7	72.2	48.0

TABLE 3.—*Maximum and minimum temperatures at selected stations for September, 1913. District No. 6*—Continued.

Date.	South Dakota.						Colorado.				Nebraska.															
	Sioux Falls. Falls.§§		Watertown.§§		Yankton.		Denver.		Wray.		Alma.		Bridgeport.		Grand Island.§§		Hay Springs.		Hebron.		Lincoln.		North Platte.		Oakdale.		Omaha.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1....	97	67	98	63	98	72	85	57	98	69	97	73	92	53	97	76	85	58	100	81	100	83	95	70	98	68	99	82
2....	85	69	72	61	86	71	83	57	92	55	97	65	90	59	96	69	95	57	95	69	100	76	90	64	93	69	98	77
3....	97	68	85	61	96	68	83	55	94	58	101	66	92	57	98	70	90	56	98	70	99	74	96	63	97	67	98	76
4....	104	68	98	62	101	77	82	58	97	56	99	65	92	54	101	70	95	53	99	70	101	75	97	64	99	72	100	76
5....	104	65	98	64	100	68	88	55	97	63	101	65	93	55	102	69	94	53	101	68	103	75	96	62	99	66	100	76
6....	104	71	97	63	100	76	88	59	96	57	102	62	96	53	103	68	96	73	102	72	102	74	96	65	99	67	98	77
7....	87	70	77	62	91	68	77	61	96	55	105	62	82	62	99	71	82	56	100	71	99	74	91	60	94	72	98	75
8....	84	56	78	51	84	60	83	57	89	58	89	63	85	55	84	63	82	52	95	67	89	70	84	62	85	61	80	69
9....	89	59	82	53	83	63	78	56	85	60	81	62	86	60	84	62	82	60	83	67	85	65	79	61	81	62	82	64
10....	80	59	75	59	80	66	82	52	87	55	86	65	81	51	85	68	76	50	84	69	83	68	85	61	80	67	80	70
11....	75	50	73	41	76	50	74	53	78	53	76	60	78	46	75	61	78	42	79	65	76	57	76	51	75	50	74	59
12....	78	39	74	32	76	44	78	48	77	37	77	38	84	42	76	41	85	43	77	47	74	46	78	40	72	42	73	51
13....	82	42	79	32	79	56	84	49	84	49	80	46	89	49	80	50	88	46	77	40	78	46	82	47	78	51	76	54
14....	80	48	77	45	77	56	79	56	83	52	82	40	85	51	78	49	84	55	77	41	77	51	77	47	75	51	76	54
15....	86	48	67	53	80	49	72	52	79	48	80	38	72	53	80	44	65	52	79	44	78	47	76	44	79	43	78	51
16....	78	49	73	52	75	57	58	45	68	50	70	55	65	48	75	53	60	46	74	62	66	60	65	54	66	52	64	59
17....	78	48	74	54	76	50	70	41	67	49	74	55	73	48	74	54	70	45	69	60	70	56	67	50	73	52	72	61
18....	80	50	77	48	78	50	85	45	86	46	78	44	91	43	80	49	86	45	75	44	77	49	80	48	77	49	75	55
19....	64	55	57	49	67	49	68	41	75	52	70	51	.....	.....	60	60	72	45	74	59	67	52	66	46	65	48	65	52
20....	60	36	55	35	60	42	67	34	73	33	64	38	.....	27	62	38	70	29	63	44	61	43	62	37	59	39	58	47
21....	69	25	53	32	61	38	75	39	75	26	70	29	.....	.....	68	32	78	28	69	36	69	39	70	33	65	33	64	41
22....	64	41	58	22	61	30	67	45	68	41	75	38	.....	.....	72	44	68	42	75	36	68	34	69	38	65	30	63	36
23....	67	40	46	24	68	43	48	32	59	36	78	50	57	39	74	52	59	38	80	63	82	57	67	47	65	46	84	56
24....	52	40	49	36	55	39	40	30	55	38	63	53	50	27	50	45	47	30	63	49	61	50	56	33	50	38	64	48
25....	52	32	48	35	50	32	51	32	62	25	59	27	58	19	58	32	54	20	56	37	57	39	60	27	52	31	54	40
26....	70	30	69	29	68	36	60	33	70	24	69	26	70	22	68	32	65	26	65	34	67	38	68	27	64	30	67	40
27....	71	33	71	29	69	40	59	34	55	43	69	36	58	30	68	41	60	31	67	38	68	42	65	38	66	34	70	44
28....	75	38	69	36	58	45	49	43	50	41	57	46	.....	.....	58	52	62	42	59	51	59	51	57	46	58	48	58	50
29....	65	42	59	42	64	50	71	42	71	33	69	44	72	32	64	50	70	32	65	51	65	54	71	43	61	47	63	54
30....	70	46	68	49	73	47	70	40	74	36	74	46	76	32	74	46	72	34	72	51	70	50	76	38	69	42	70	54
Mns..	78.3	49.5	71.9	45.8	76.3	53.1	71.8	46.7	78.0	46.6	79.7	50.3	78.7[a]	44.9[d]	78.1	53.7	75.7	44.6	79.1	55.2	78.4	56.5	76.6	48.9	75.3	50.9	76.7	58.3

Date.	Valentine, Nebr.		Iowa.						Kansas.										Missouri.							
			Clarinda.§§		Sibley.§§		Sioux City.		Colby.		Concordia.		Salina.		Topeka.		Wakeeney.		Columbia.		Kansas City.		St. Louis.		Unionville.§§	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1.....	97	64	102	70	98	64	98	77	94	60	99	80	99	81	98	77	95	72	102	76	98	79	99	73	100	73
2.....	81	59	103	70	90	73	91	72	95	66	99	75	99	72	98	77	99	74	100	77	98	77	98	76	101	70
3.....	93	63	103	65	93	67	94	72	95	62	99	75	100	75	97	73	98	70	101	73	98	76	98	80	103	72
4.....	98	63	105	60	100	66	99	73	95	62	100	73	101	76	100	74	98	66	103	70	101	78	98	76	105	66
5.....	97	66	106	65	102	64	99	75	95	60	102	71	102	67	102	70	98	65	99	74	99	78	92	69	103	70
6.....	97	71	101	68	100	67	97	73	95	60	103	71	102	68	97	73	100	63	91	72	92	76	90	73	98	67
7.....	82	60	100	63	91	65	95	71	96	79	100	69	100	72	94	72	100	66	95	71	93	73	88	75	95	66
8.....	78	52	93	64	80	56	80	63	89	64	92	67	92	68	88	70	94	64	92	72	87	73	91	72	94	68
9.....	78	62	79	64	83	57	82	62	81	64	81	68	86	68	82	70	81	66	85	67	80	69	84	68	88	60
10.....	78	59	89	64	88	57	82	69	82	59	81	70	85	67	86	68	82	62	91	67	82	67	88	63	92	58
11.....	75	49	70	66	72	56	74	50	74	60	74	60	82	66	69	65	72	61	83	64	71	65	87	68	74	64
12.....	82	48	75	50	73	39	75	40	73	41	76	50	78	54	73	57	77	44	71	58	71	59	68	62	76	52
13.....	87	55	76	42	79	41	76	51	78	45	76	45	75	47	70	49	77	46	72	52	71	52	70	54	78	40
14.....	80	58	75	44	77	45	73	52	76	44	76	44	74	48	74	49	75	42	74	52	72	54	73	53	82	38
15.....	65	55	78	50	81	42	79	51	75	40	76	49	77	48	68	57	79	44	64	60	64	59	65	56	80	44
16.....	61	52	68	50	76	46	72	59	72	52	74	62	75	56	69	60	69	55	73	64	68	60	73	65	76	50
17.....	66	51	69	60	76	49	75	54	69	54	69	58	70	57	69	63	71	55	77	62	68	63	78	62	74	56
18.....	84	53	72	49	78	47	74	48	67	45	72	53	.....	.....	70	60	75	49	71	61	68	60	70	61	80	53
19.....	68	48	72	50	61	48	64	49	71	56	74	53	70	62	79	56	73	56	77	57	78	57	77	64	78	55
20.....	59	37	60	47	56	40	58	43	64	34	65	46	.....	45	61	47	66	40	58	48	59	49	65	52	60	46
21.....	66	32	64	38	57	33	61	36	67	31	70	40	51	38	66	41	69	38	62	43	64	44	57	46	61	40
22.....	69	38	64	32	57	21	61	30	72	44	77	40	74	45	75	41	80	45	65	37	70	42	61	42	66	27
23.....	62	43	86	35	72	25	76	47	59	47	82	61	80	44	83	64	78	53	82	56	81	62	79	48	83	30
24.....	47	31	69	57	49	42	56	45	57	41	61	50	62	49	79	54	68	45	81	62	80	60	79	58	80	50
25.....	53	31	59	43	49	37	52	36	57	30	60	40	70	45	58	47	60	33	66	51	60	49	75	52	66	48
26.....	66	29	67	32	68	27	67	38	66	33	68	37	72	41	64	43	68	38	62	43	64	46	57	50	70	34
27.....	69	37	70	33	72	32	68	37	59	40	66	41	78	42	68	42	59	42	68	38	67	48	67	48	76	37
28.....	63	42	58	36	65	37	54	44	49	44	66	51	68	49	67	54	57	47	64	53	64	53	69	57	78	46
29.....	65	46	66	51	62	51	60	50	67	45	69	51	67	51	68	55	70	42	77	58	68	55	77	62	74	50
30.....	75	42	71	47	66	50	71	50	73	47	76	46	73	48	76	52	75	52	75	54	74	54	76	62	70	51
Mns.....	74.7	49.9	79.0	52.2	75.7	48.1	75.4	53.9	75.4	50.3	79.4	56.5	80.8[b]	56.9[a]	78.3	59.3	78.8	53.2	79.4	59.7	77.0	61.2	78.3	61.3	82.0	52.7

[a], [b], [c], etc., indicate respectively 1, 2, 3, etc., days missing from the record.
§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.

CLIMATOLOGICAL DATA FOR SEPTEMBER, 1913.

DISTRICT NO. 7, LOWER MISSISSIPPI VALLEY.

ISAAC M. CLINE, District Editor.

GENERAL SUMMARY.

High temperatures prevailed generally during the first decade, but from the 10th to the close of the month the weather was cooler and from the 18th to 23d a cool wave overspread the district, giving light frost as far south as northern Louisiana. While the droughty conditions prevailing at the close of August continued during the first week in September, from then to the close of the month copious rains occurred, the precipitation being above the normal in nearly all sections, and excessive and damaging in many localities in the eastern portion of the district.

The following table summarizes the chief features of meteorological interest in the various portions of the district:

tates and portions of States lying within District No. 7.	Mean temperature.	Departure from the normal.	Mean precipitation.	Departure from the normal.	Greatest precipitation in 24 hours.	Mean snowfall.	Number of days.				Prevailing wind direction.
							With 0.01 inch or more.	Clear.	Partly cloudy.	Cloudy.	
Colorado	54.6	−3.5	1.64	+ 0.46	1.05	5.3	8	14	9	7	sw.
New Mexico	60.1	−4.0	2.04	+ 0.10	1.56	1.2	7	12	12	6	sw.
Texas	68.4	−3.9	6.14	+ 3.73	4.32	0	9	13	7	10	s.
Kansas	68.4	−1.7	4.16	+ 1.43	3.99	0	8	13	9	8	s.
Oklahoma	70.6	−2.7	5.58	+ 2.84	5.50	0	10	12	8	10	s.
Missouri	69.6	−0.6	5.59	+ 1.64	4.08	0	10	12	6	12	s.
Tennessee	72.0	+0.2	3.67	+ 0.88	2.20	0	9	13	4	13	se.
Arkansas	71.7	−1.6	10.10	+ 6.38	5.00	0	13	9	9	12	s.
Mississippi	73.9	−1.3	7.30	+ 4.57	4.64	0	13	10	8	12	se.
Louisiana	75.5	−2.2	13.39	+10.18	8.83	0	16	9	6	15	e.

TEMPERATURE.

Mean temperatures ranged from 0.1° to 7.6° below the normal, except over the northeastern portion of the district, where there was an excess of 0.3° to 1.2°. Maximum temperatures of 100° or higher were reported from one or more stations in all States or parts of States in the district, except in the New Mexico area, where the highest reading was 99°. Monthly minimum temperatures were generally below 40° over the western and northern portions of the district, and between 50° and 60° over the southeastern portion. The highest temperature recorded, 112°, occurred at Meeker, Okla., and maximum readings of 109° were reported from Sedan and Toronto, Kans. The lowest temperature recorded, 14°, occurred at Lake Moraine, Colo., and a minimum reading of 18° was reported from Elizabethtown, N. Mex.

PRECIPITATION BY DRAINAGE AREAS.

Arkansas River and tributaries.—More than the normal precipitation occurred over this drainage area, except that there was a deficiency in eastern Kansas. Over the headwaters of the Arkansas River in Colorado the average from 36 stations was 1.36 inches, about 0.5 inch above the normal. The average from 45 stations in those portions of the Arkansas Valley proper that lie in Kansas and Oklahoma was 4.77 inches, about 2.2 inches above the normal. Over the headwaters of the Canadian River in New Mexico the average from 41 stations was 2.07 inches, about 0.1 inch above the normal. In those parts of the Canadian Valley that lie in Texas and Oklahoma the average from 32 stations was 4.92 inches, being about 3 inches in excess of the normal. The average from 20 stations in the Cimarron Valley was 4.98 inches, about 3.1 inches above the normal. Over the Verdigris Valley the average from 10 stations was 3.53 inches, about 0.3 inch below the normal, and in the Neosho Valley the average from 19 stations was 3.89 inches, about 0.4 inch above the normal. Below the Oklahoma-Arkansas line the average from 14 stations in the Arkansas Valley proper was 9.15 inches, being about 5 inches in excess of the normal amount.

Red River and tributaries.—Excessive precipitation occurred over the greater portion of this drainage area. In those portions of the Red River Valley that lie in New Mexico, Texas, and Oklahoma the average from 52 stations was 6.01 inches, about 3.9 inches above the normal. Below the Texas-Arkansas line the average from 19 stations was 13.34 inches, being about 10.3 inches in excess of the normal amount.

Mississippi River south of St. Louis and small tributaries.—The precipitation was uniformly heavy over this drainage area. In the immediate Mississippi Valley the average from 40 stations was 6.25 inches, about 2.6 inches above the normal. The average from 22 stations in the Valley of the White was 7.75 inches, about 4 inches above the normal. Over the Yazoo Valley the average from 23 stations was 6.97 inches, about 4.6 inches above the normal. The average for the Valley of the Big Black was 7.17 inches, about 4 inches above the normal. The amounts from 18 stations in the Ouachita Valley averaged 13.53 inches, about 10.4 inches above the normal.

Louisiana coastal plain.—Excessive and damaging precipitation occurred over this drainage area, the average from 38 stations being 13.68 inches, about 9.8 inches above the normal. Six stations reported more than 20 inches. A report on this rainfall and the damage resulting therefrom will appear in the October issue of the Monthly Weather Review.

SNOWFALL.

Snow, ranging from a trace to 13 inches, occurred over the more elevated portions of the Colorado and New Mexico areas, but very little of it remained upon the ground for any considerable length of time.

RIVERS.

Notwithstanding the heavy rains which fell in the White, Arkansas, Ouachita, and Red River drainage basins, there were no floods in those streams and stages remained below the normal, the bulk of the precipitation being absorbed by the dry earth.

The Mississippi River below St. Louis changed very little during the month.

TABLE 1.—*Climatological data for September, 1913. District No. 7, Lower Mississippi Valley.*

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, 0.01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Colorado.																				
Buena Vista	Chaffee	7,955	13	50.3	− 2.3	76	3†	20	26	50	1.18	+ 0.60	0.35	0	7	16	6	8	w.	C. A. Short.
Calhan	El Paso	6,700	6	56.0	.....	85	6	25	25	40	1.01	.....	0.43	0	10	22	6	2	se.	H. B. Rice.
Canon City	Fremont	5,343	25	60.6	− 4.1	92	3†	30	27	43	1.47	+ 0.70	0.68	0	7	22	3	5	nw.	U. S. Weather Bureau.
Colorado Springs	El Paso	6,098	33	55.6	− 3.7	80	6	30	20	36	0.97	− 0.15	0.29	T.	10	11	5	14	se.	Colorado College.
Cripple Creek	Teller	9,396	12	.....	.....	.....	.....	.....	.....	.....	2.03	+ 0.56	0.54	6.0	9	.....	.....	.....	.....	F. G. Willis.
Cuchara Camps	Huerfano	8,200	4	.....	.....	.....	.....	.....	.....	.....	2.05	.....	0.87	8.0	12	12	12	6	sw.	George A. Mayes.
Eads	Kiowa	4,209	6	59.8	.....	99	6	30	27†	43	1.30	.....	0.80	0	3	22	3	5	e.	Mrs. Mattie A. Kerr.
Fairview	Custer	9,500	4	.....	.....	.....	.....	.....	.....	.....	3.13	.....	0.85	0	8	12	7	11	e.	Elizabeth L. Grey.
Fremont Exp. Station	El Paso	8,850	3	45.8	.....	70	6†	18	24	34	3.32	.....	0.94	5.2	13	11	6	13	w.	U. S. Forest Service.
Garfield	Chaffee	9,510	3	.....	.....	.....	.....	.....	.....	.....	1.79	.....	0.48	3.5	12	20	5	5	w.	Lloyd N. Felton.
Hamps	Elbert	5,400	20	56.1	− 2.5	86	2†	25	25	46	0.41	− 0.54	0.16	0	3	14	9	7	n.	W. Hamp.
Hermit Lake	Custer	10,000	3	.....	.....	.....	.....	.....	.....	.....	3.94	.....	0.87	13.0	12	7	13	10	sw.	John E. Graham.
Hoehne (near)	Las Animas	5,700	21	61.0	− 1.6	90	1†	30	27	49	1.66	+ 0.41	0.43	T.	7	15	10	5	n.	S. W. De Busk.
Holly	Prowers	3,380	18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Holly Sugar Co.
La Junta	Otero	4,052	.....	.....	.....	.....	.....	.....	.....	.....	0.54	.....	0.36	0	3	18	8	4	se.	S. M. Miller.
Lake Moraine	El Paso	10,265	19	42.4	− 4.8	65	3†	14	25	31a	3.13	+ 1.63	0.85	6.0	10	5a	19a	5a	sw.	Clyde C. McReynolds.
Lamar	Prowers	3,592	23	64.0	− 4.9	100	1	34	22	49	1.79	+ 0.59	0.77	0	5	21	5	4	sw.	J. T. Lawless.
Las Animas	Bent	3,899	45	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	American Beet Sugar Co.
La Veta Pass	Costilla	9,000	3	.....	.....	.....	.....	.....	.....	.....	0.90	.....	0.42	8.0	4	5	23	2	w.	Clara M. Wright.
Leadville	Lake	10,248	17	44.2	− 3.9	73	5	16	23	40	1.45	+ 0.51	0.68	2.4	15	7	16	7	n.	U. S. Weather Bureau.
Limon (near)	Elbert	5,360	6	57.0	.....	89	1†	25	25	45	0.79	.....	0.28	T.	4	20	4	6	s.	F. L. Palmer.
Madrid	Las Animas	6,361	3	.....	.....	.....	.....	.....	.....	.....	1.72	.....	0.37	0	12	.....	.....	.....	.....	Thomas Sawers.
Marshall Pass	Saguache	10,846	10	.....	.....	.....	.....	.....	.....	.....	1.23	+ 0.20	0.30	8.0	6	13	5	12	.....	W. L. Williams.
Maxey	Baca	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.02	.....	0.62	0	2	14	10	6	.....	L. H. Alberti.
Monument	El Paso	7,200	2	51.6	.....	81	6	21	25	48	1.12	.....	0.43	1.0	11	13	12	5	n.	U. S. Forest Service.
North Lake	Las Animas	8,700	21	.....	.....	.....	.....	.....	.....	.....	1.91	+ 0.55	0.51	6.0	11	19	7	4	nw.	James W. Ingmire.
Pueblo	Pueblo	4,734	25	61.0	− 3.4	89	1	34	27	48	0.79	+ 0.17	0.34	0	8	16	9	5	e.	U. S. Weather Bureau.
Rocky Ford (near)	Otero	4,177	24	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. K. Blinn.
St. Elmo	Chaffee	9,500	4	.....	.....	.....	.....	.....	.....	.....	2.35	.....	0.63	3.5	13	8	8	14	sw.	Daniel Clark.
Salida	....do	7,035	14	54.2	− 2.5	82	5†	23	27	51	0.87	− 0.19	0.42	0	4	22	2	6	sw.	M. D. L. Buell.
Stonewall	Las Animas	8,000	7	.....	.....	.....	.....	.....	.....	.....	1.99	.....	0.45	T.	10	11	2	17	.....	G. A. Storz.
Trinidad	....do	5,994	17	58.2	− 4.2	84	6	32	25	42	2.39	+ 1.10	0.65	0	11	6	18	6	w.	Walter Dearden.
Two Buttes	Baca	4,100	2	61.9	.....	96	2†	34	25	43	1.52	.....	1.05	0	5	20	9	1	sw.	N. G. Jones.
Two Buttes Reservoir	....do	4,250	.....	.....	.....	.....	.....	.....	.....	.....	1.28	.....	0.75	0	4	12	15	3	se.	Ben C. Spencer.
Victor	Teller	10,100	9	47.2	.....	73	6	19	25	35	2.15	.....	0.51	4.2	9	12	9	9	w.	Fred Jones.
Vilas	Baca	3,935	22	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Miss Esther Caldwell.
Westcliffe	Custer	7,864	19	49.6	− 4.6	82	5	20	13†	51	1.50	+ 0.26	0.53	4.0	8	6	13	11	se.	U. S. Forest Service.
Winfield	Chaffee	9,765	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	John G. Payne.
Woodman Sanatorium	El Paso	.....	2	55.7	.....	83	6	28	25	42	1.16	.....	0.25	0	12	16	10	4	sw.	Woodman Sanatorium.
Wortman	Lake	11,250	12	.....	.....	.....	.....	.....	.....	.....	2.40	+ 1.02	0.50	.....	9	3	8	19	nw.	Mrs. Lillie Wortman.
Yoder	El Paso	.....	2	.....	.....	.....	.....	.....	.....	.....	0.66	.....	0.50	1.0	3	18	6	6	se.	J. E. Bingham.
New Mexico.																				
Abbott	Mora	5,771	4	.....	.....	.....	.....	.....	.....	.....	1.50	.....	0.50	3.0	5	3	23	4	sw.	Agent E. P. & S. W. R. R.
Albert	Union	4,700	23	65.0	− 7.6	95	18	31	29	56	2.33	+ 0.45	0.72	0	5	16	9	5	w.	Antonio Chavez.
Aurora	Colfax	8,849	4	.....	.....	.....	.....	.....	.....	.....	3.17	.....	1.13	0	17	4	19	7	nw.	Juanita Lucero.
Bell Ranch	San Miguel	4,500	14	64.4	.....	94	5	32	25	48	1.47	− 0.11	0.65	0	8	16	7	7	e.	C. M. O'Donel.
Black Lake	Colfax	8,348	4	.....	.....	.....	.....	.....	.....	.....	1.67	.....	1.11	0	8	4	23	3	w.	Ralph T. Martinez.
Cabeza	San Miguel	5,406	4	.....	.....	.....	.....	.....	.....	.....	3.62	.....	0.90	2.0	10	3	21	6	sw.	Agent E. P. & S. W. R. R.
Campana	....do	4,493	4	64.7	.....	90	2†	34	25	42	1.45	.....	0.44	0	6	12	13	5	sw.	Do.
Chacon	Mora	9,000	4	.....	.....	.....	.....	.....	.....	.....	4.00	.....	1.24	0	8	1	26	3	w.	Alfred Lucero.
Cimarron (near)	Colfax	6,385	9	56.4	.....	83	1†	30	21†	51	2.17	− 0.03	0.46	0	12	11	11	8	e.	Capt. William French.
Clayton	Union	5,260	8	62.1	.....	91	7	32	25	44	3.41	.....	1.56	2.0	8	11	14	5	sw.	Dr. N. E. Charlton.
Clovis	Curry	4,129	2	65.8	.....	91	2	38	25	44	1.69	.....	0.60	0	8	19	0	11	.....	John H. Barry.
Cuervo	Guadalupe	4,849	4	66.0	.....	92	2	32	25†	41	2.05	.....	0.80	0	5	15	3	12	sw.	Agent E. P. & S. W. R. R.
Dawson	Colfax	6,396	4	58.4	.....	86	2†	32	20	44	1.69	.....	0.53	0.5	10	6	24	0	s.	Do.
Elizabethtown	....do	8,465	8	47.2	.....	77	19	18	20	51	2.32	.....	1.03	7.0	6	12	13	5	w.	Miss M. Carrington.
Folsom	Union	6,399	13	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	David Rope.
Fort Union	Mora	6,835	53	55.2	− 5.3	82	15†	28	28	48	1.95	− 0.17	0.60	10.0	8	21	4	5	w.	M. C. Needham.
Hayden	Union	4,444	3	62.6	.....	92	1†	35	26	42	1.63	.....	0.46	0	7	13	11	6	se.	J. A. Bauer.
Hoosier Ranch	Mora	5,680	2	.....	.....	.....	.....	.....	.....	.....	2.05	.....	0.50	4.5	6	15	13	2	sw.	W. H. Guthman.
Johnsons Park	Colfax	6,722	4	56.8	.....	82	1†	32	20†	46	2.54	.....	0.59	T.	10	15	13	2	ne.	A. J. Meloche, jr.
Johnsons Ranch	Mora	5,784	1	.....	.....	.....	.....	.....	.....	.....	2.26	.....	0.79	0	5	8	20	2	.....	J. W. Johnson.
Kappus	Quay	4,000	2	.....	.....	.....	.....	.....	.....	.....	1.61	.....	0.40	0	8	.....	.....	.....	.....	Louis O'Brien.
Lake Alice	Colfax	7,160	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jesse Rickman.
Logan	Quay	3,851	7	.....	.....	99	4	40	20†	.....	1.72	.....	0.90	0	4	.....	.....	.....	sw.	John B. Reneau.
Lykins (near)	Roosevelt	5,000	3	.....	.....	.....	.....	.....	.....	.....	2.33	.....	0.77	0	7	19	8	3	sw.	J. G. Buchanan.
Maxwell (near)	Colfax	5,894	6	.....	.....	.....	.....	.....	.....	.....	2.31	.....	0.68	0	10	.....	.....	.....	.....	Dan N. Jackson.
Melrose	Curry	4,400	5	.....	.....	.....	.....	.....	.....	.....	1.77	.....	0.57	0	12	.....	.....	.....	.....	Dr. B. M. Porter.
Miami Ranch	Colfax	6,000	5	56.0	.....	85	19	28	13	53	1.37	.....	0.51	0	6	7	23	0	sw.	Farmers' Development Co.
Mills (near)	Mora	5,985	2	.....	.....	.....	.....	.....	.....	.....	2.50	.....	0.57	4.0	7	16	4	10	sw.	J. E. La Rue.
Montoya	Quay	4,335	4	.....	.....	.....	.....	.....	.....	.....	0.79	.....	0.63	0	4	15	4	11	e.	Agent E. P. & S. W. R. R.
Nara Visa	....do	4,225	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Willard Belknap.
Palo Verde	Mora	5,880	2	.....	.....	.....	.....	.....	.....	.....	2.39	.....	0.57	2.0	8	7	19	4	sw.	G. R. Abernathy.
Pasamonte	Union	.....	4	.....	.....	.....	.....	.....	.....	.....	2.45	.....	0.79	0	5	6	19	5	w.	J. J. Heringa.
Pleasant View	Mora	5,784	2	.....	.....	.....	.....	.....	.....	.....	1.39	.....	0.75	0	5	17	10	3	.....	R. W. Boulware.
Portales	Roosevelt	4,004	3	63.4	.....	93	19	37	13†	48	1.75	.....	0.60	0	5	4	22	4	se.	A. R. Bowers.
Raton	Colfax	6,660	15	55.6	− 5.4	86	4	30	19†	46	1.63	− 0.05	0.44	T.	12	16	10	4	nw.	S. A. Wiseman.
Rociada	San Miguel	8,200	9	55.0	− 0.9	80	1†	26	28	44	3.27	+ 0.96	0.90	5.8	8	10	12	8	w.	John P. Condon.
Rosebud	Union	4,500	2	.....	.....	.....	.....	.....	.....	.....	1.75	.....	0.60	0	6	.....	.....	.....	.....	H. A. Nachtrieb.
Roy	Mora	5,884	4	60.4	.....	87	1	32	25	40	2.84	.....	0.70	2.0	8	13	10	7	sw.	Agent E. P. & S. W. R. R.
Roy (near)	....do	5,880	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Baum Bros.
St. Vrain (near)	Curry	4,300	.....	.....	.....	.....	.....	.....	.....	.....	1.57	.....	0.87	0	2	.....	.....	.....	.....	S. A. Dow.
San Jon	Quay	4,200	6	65.9	.....	95	2	36	13	45	1.14	.....	0.33	0	9	18	5	7	sw.	Jesse T. White.
Solano	Mora	5,622	4	59.6	.....	88	2†	32	20†	40	3.53	.....	1.03	6.0	10	15	10	5	sw.	F. M. Hughes.
Springer	Colfax	5,857	21	58.1	− 4.3	86	2	31	13	49	1.27	+ 0.05	0.45	2.0	7	20	10	0	w.	Agent A. T. & S. F. R. R.
Taylor	....do	5,661	4	57.7	.....	88	2	32	20†	44	2.02	.....	0.60	0	6	13	0	17	nw.	Agent E. P. & S. W. R. R.
Texico (near)	Roosevelt	4,038	.....	.....	.....	.....	.....	.....	.....	.....	1.83	.....	0.50	0	5	.....	.....	.....	.....	A. L. King.
Trementina	San Miguel	5,000	5	.....	.....	.....	.....	.....	.....	.....	1.68	.....	0.78	T.	5	15	8	7	ne.	Miss Alice Blake.
Tucumcari (near)	Quay	4,194	8	68.0	.....	97	19	39	25†	43	1.58	.....	0.30	0	7	19	3	8	sw.	John F. Seaman.
Tucumcari	....do	4,194	4	68.8	.....	93	1†	41	25†	38	1.06	.....	0.65	0	6	9	17	4	sw.	Agent E. P. & S. W. R. R.
Valley	Union	5,000	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Miss M. L. Payne.
Vance (near)	....do	.....	2	.....	.....	.....	.....	.....	.....	.....	1.26	.....	0.42	0	7	17	8	5	s.	C. E. Anderson.
Vermejo Park	Colfax	7,600	8	54.8	− 0.6	82	1	27	24	43	1.31	− 0.34	0.38	1.5	7	0	14	16	.....	H. W. Adams.
Wagon Mound (near)	Mora	6,300	4	55.6	.....	88	10	25	14	50	2.58	.....	0.66	4.0	14	13	5	12	se.	Guy L. Barnes.

TABLE 1.—*Climatological data for September, 1913. District No. 7*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, 0.01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Texas.																				
Amarillo	Potter	3,676	21	64.8	− 2.9	94	7	38	28	38	4.19	+ 1.83	1.41	0	10	18	6	6	s.	U. S. Weather Bureau.
Archer City	Archer	.....	2	.....	.....	.....	.....	.....	.....	.....	4.06	.....	2.83	0	5	18	6	6	s.	Charles H. Thuman.
Arthur City	Lamar	590	21	.....	.....	.....	.....	.....	.....	.....	14.14	+11.44	4.32	0	9	12	2	16	n.	J. F. Humphreys.
Bonham	Fannin	566	9	72.4	.....	101	4†	47	21	35	10.37	.....	2.40	0	11	5	6	19	ne.	H. M. Norman.
Canadian	Hemphill	2,339	6	67.7	.....	102	5	40	21	44	3.58	.....	1.55	0	7	14	5	11	e.	R. M. Hibbard.
Childress	Childress	1,869	20	.....	.....	.....	.....	.....	.....	.....	8.76	+ 6.69	3.04	0	9	6	14	10	s.	George Baker.
Chillicothe	Hardeman	1,406	5	.....	.....	.....	.....	.....	.....	.....	3.84	.....	1.42	0	12	.....	.....	.....	.....	C. W. Underwood.
Clarendon	Donley	2,719	8	67.6	.....	97	6†	41	28	44	3.06	.....	0.81	0	10	14	7	9	nw.	E. Homer Powell.
Clarksville	Red River	442	13	74.6[1]	− 3.7	103	1	48	22	31	10.53	+ 7.12	3.70	0	8	12	10	8	.....	J. W. O'Neill.
Claude	Armstrong	3,397	10	.....	.....	.....	.....	.....	.....	.....	4.95	+ 3.49	1.35	0	6	.....	.....	.....	.....	Ft. W. & D. C. Ry.
Dalhart	Dallam	3,998	8	63.7	.....	94	2	39	13†	43	1.54	.....	0.52	0	8	19	6	5	se.	W. D. Griggs.
Denison	Grayson	.....	13	.....	.....	.....	.....	.....	.....	.....	5.27	+ 2.34	1.30	0	13	12	1	17	n.	E. B. Wilson.
Finley	Bowie	.....	3	.....	.....	.....	.....	.....	.....	.....	8.46	.....	2.25	0	8	13	0	17	s.	Robert L. Smith.
Henrietta	Clay	915	21	73.6	− 3.9	104	5†	48	21	38	4.13	+ 1.53	2.45	0	10	12	6	12	s.	C. K. Brown.
Jefferson	Marion	.....	.....	.....	.....	.....	.....	.....	.....	.....	11.26	.....	3.70	0	9	12	1	17	sw.	J. C. Kistenmacher.
Memphis	Hall	2,067	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Ft. W. & D. C. Ry.
Miami	Roberts	2,743	10	66.5	.....	100	6	39	22	51	3.20	+ 1.90	1.50	0	6	18	5	7	s.	J. E. Kinney.
Ochiltree	Ochiltree	.....	10	.....	.....	.....	.....	.....	.....	.....	2.90	+ 1.27	1.03	0	6	.....	.....	.....	.....	S. J. Allen.
Paducah	Cottle	.....	.....	.....	.....	.....	.....	.....	.....	.....	3.65	.....	0.86	0	8	12	12	6	n.	C. M. Grayum.
Panhandle	Carson	3,450	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Sid O'Keefe.
Paris	Lamar	592	24	73.0	− 4.0	106	5	47	21	37	10.72	+ 8.19	3.95	0	14	9	8	13	e.	Robert A. Miller.
Plemons	Hutchinson	.....	6	65.0	.....	98	7	33	22	57	4.29	.....	1.18	0	12	15	6	9	se.	C. S. Solomon.
Quanah	Hardeman	1,563	11	71.8	− 5.3	101	6	37	28	43	5.08	+ 3.00	1.70	0	8	18	3	9	s.	William H. Crawford.
Ringo Crossing	Hopkins	.....	3	.....	.....	.....	.....	.....	.....	.....	7.16	.....	4.00	0	8	9	3	18	se.	J. F. White.
Romero	Hartley	4,056	3	64.0	.....	92	7	35	27	43	1.53	.....	0.40	0	5	11	14	5	e.	R. S. Chamberlain.
Sherman	Grayson	745	20	72.2	− 3.7	98	5	52	21	28	6.63	+ 2.99	2.19	0	10	12	2	16	s.	R. A. Gibbs.
Stratford	Sherman	3,699	1	63.8	.....	95	2	37	21†	44	2.78	.....	0.62	0	8	13	11	6	s.	J. W. Elliott.
Tulia	Swisher	3,501	15	65.6	− 3.9	95	7	39	14	48	6.53	+ 4.21	2.80	0	10	17	8	5	s.	Lou Mulhall.
Wellington	Collingsworth	.....	1	.....	.....	.....	.....	.....	.....	.....	7.01	+ 4.31	2.25	0	10	.....	.....	.....	.....	J. D. Camp.
Wichita Falls	Wichita	958	21	.....	.....	.....	.....	.....	.....	.....	5.65	+ 2.95	2.90	0	6	.....	.....	.....	.....	J. C. Mytinger.
Winfield	Titus	.....	3	.....	.....	.....	.....	.....	.....	.....	12.66	.....	.....	0	9	10	15	5	sw.	J. B. Newberry.
Kansas.																				
Alden	Rice	1,684	3	67.8	.....	103	6	38	14	39	2.85	.....	1.75	0	7	16	7	7	s.	Geo. Klady.
Anthony	Harper	1,329	16	71.0	.....	106	6	44	21	39	7.19	+ 4.74	3.99	0	9	6	15	9	ne.	R. H. Beebe.
Ashland	Clark	1,951	25	67.6	− 2.9	102	6	39	21	39	5.45	+ 3.39	1.62	0	14	11	15	4	se.	C. W. Carson.
Burlington	Coffey	1,010	20	69.5	− 1.4	107	5	37	22	42	3.95	− 0.47	1.84	0	5	6	17	7	s.	O. E. Sanford.
Chanute	Neosho	940	9	70.6	.....	105	5	42	23	37	4.32	.....	2.34	0	8	6	15	9	s.	C. W. Brown.
Cimarron	Gray	2,700	1	66.4	.....	100	7	41	26	44	4.53	.....	1.66	0	9	16[c]	4[c]	7[c]	s.	C. C. Isely.
Coldwater	Comanche	2,090	16	67.6	− 4.4	101	6	39	21	38	7.47	+ 5.22	2.74	0	12	14	7	9	n.	J. L. Stanley.
Columbus	Cherokee	898	23	70.2	− 1.0	104	5	42	21	36	6.98	+ 3.24	2.27	0	10	13	4	13	sw.	O. E. Skinner.
Coolidge	Hamilton	3,348	16	64.2	− 2.7	101	2†	31	21	49	2.77	+ 1.47	1.23	0	4	13	12	5	se.	W. R. Padley.
Cottonwood Falls	Chase	1,234	9	70.0	.....	105	5	39	21†	42	2.17	.....	1.10	0	10	11	9	10	s.	E. B. Greene.
Council Grove	Morris	1,234	4	70.7[a]	.....	104	5	40	21†	38[a]	5.20	.....	1.65	0	9	4[a]	13[a]	6[a]	sw.	J. P. Blackledge.
Cunningham	Kingman	1,680	29	68.0	− 2.7	103	6	42	21†	38	4.78	+ 2.32	1.35	0	7	16	6	8	ne.	W. H. Morton.
Dodge City	Ford	2,513	39	64.8	− 3.4	97	7	38	25	36	5.40	+ 3.63	1.89	0	10	12	10	8	se.	U. S. Weather Bureau.
Eldorado	Butler	1,291	11	69.0	.....	102	5	40	21	38	3.76	.....	1.61	0	8	11	13	6	e.	W. Y. Miller.
Ellinwood	Barton	1,790	38	67.6	− 1.4	103	6	38	21	40	5.18	+ 2.96	1.80	0	7	5	19	6	ne.	Martin Musil.
Emporia	Lyon	1,138	32	70.6	+ 1.8	105	5	40	21†	38	3.41	− 0.05	1.35	0	10	15	8	7	se.	Chas. Moss.
Eureka	Greenwood	1,079	17	68.4	.....	106	5	40	21†	38	5.97	+ 2.07	2.45	0	7	11	16	3	sw.	Mrs. T. C. Peffer.
Fall River	....do....	925	17	.....	.....	105	4†	.....	.....	40	3.33	− 0.31	1.50	0	6	17	11	2	n.	J. McDaniel.
Fargo	Seward	.....	3	.....	.....	.....	.....	.....	.....	.....	2.91	.....	0.96	0	7	15	12	3	s.	N. B. Swink.
Fredonia	Wilson	975	10	70.7	.....	106	5	39	21	35	3.46	.....	2.19	0	10	13	1	16	s.	B. W. Holmes.
Garden City	Finney	2,836	24	64.3	− 5.1	100	7	33	21	40	5.21	+ 3.61	1.56	0	8	12	12	6	s.	B. F. Stocks.
Greensburg	Kiowa	2,235	6	66.2	.....	100	6	39	21	36	4.47	.....	1.58	0	10	19	5	6	s.	C. C. Raymond.
Grenola	Elk	1,116	25	70.2	− 0.5	108	5	39	22	44	3.29	− 0.33	1.16	0	7	12	11	7	s.	R. M. Lawyer.
Howard	....do....	1,112	6	69.0	.....	103	5	40	22	39	3.21	.....	1.44	0	5	15	4	10	s.	J. W. Eby.
Hugoton	Stevens	3,100	9	64.1	.....	98	2	34	21	49	3.48	.....	1.30	0	9	12[a]	11[a]	6[a]	s.	E. R. Kimzey.
Hutchinson	Reno	1,535	23	67.8	− 2.8	104	6	40	4†	42	5.04	+ 2.00	1.50	0	6	15[a]	5[a]	9[a]	ne.	Sheridan Ploughe.
Independence	Montgomery	800	39	70.8	− 1.4	106	5	41	21†	40	4.43	+ 0.48	1.92	0	10	13	1	16	s.	F. L. Kenoyer.
Iola	Allen	984	7	68.9	+ 0.3	104	5	39	22	39	3.12	− 0.23	2.07	0	12	12	8	10	s.	U. S. Weather Bureau.
Irene	Hamilton	3,440	3	65.8	.....	100	3†	33	21	45	2.14	.....	0.74	0	4	16	10	4	se.	N. M. Herbig.
Jetmore	Hodgeman	2,268	12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Aiken.
Kingman	Kingman	1,504	5	69.4	.....	104	6	42	21†	39	3.25	.....	1.04	0	8	10	13	7	ne.	B. B. Anawalt.
La Crosse	Rush	2,061	11	68.3	− 1.0	103	7	37	21†	42	4.40	+ 2.66	1.61	0	7	16	7	7	se.	Rodney Torrey.
Lakin	Kearney	2,993	23	.....	.....	.....	.....	35	25	46[a]	2.64	+ 1.25	0.93	0	6	.....	.....	.....	.....	C. H. Longstreth.
Larned	Pawnee	2,090	28	67.2	.....	103	6	38	25	39	4.04	+ 1.49	1.65	0	7	14	10	6	s.	H. H. Wolcott.
Lebo	Coffey	1,138	27	70.2	+ 0.7	107	5	38	21	39	2.48	− 1.84	0.93	0	7	13	9	8	s.	J. J. Bowman.
Le Roy	....do....	990	4	.....	.....	.....	.....	.....	.....	.....	2.74	.....	0.85	0	10	16	2	12	s.	F. W. Schmitt.
Liberal	Seward	2,843	6	65.8	.....	98	7	36	21	49	3.46	.....	1.16	0	10	14	4	12	se.	Dr. R. T. Nichols.
Macksville	Stafford	2,032	24	65.8	− 3.1	103	7	37	21	43	5.06	+ 2.38	2.40	0	9	18	2	10	se.	Mrs. Nelia Poling.
McPherson	McPherson	1,495	24	69.1	− 1.3	105	5	37	21	38	7.09	+ 3.79	2.26	0	10	18	2	10	sw.	Ed. F. Haberlein.
Madison	Greenwood	1,074	12	69.6	+ 0.2	106	5	37	22	43	2.76	− 1.35	1.20	0	5	2	25	3	se.	C. A. David.
Marion	Marion	1,310	20	71.0	+ 1.5	105	5	37	21	40	4.85	+ 1.78	1.51	0	6	8	17	5	sw.	Jerry Forney.
Medicine Lodge	Barber	1,259	20	68.8	− 2.8	103	6	41	21	40	5.29	+ 2.25	1.55	0	9	11	12	7	se.	S. P. Garrison.
Minneola	Clark	1,259	1	.....	.....	.....	.....	.....	.....	.....	6.39	.....	2.41	0	7	20	4	6	se.	A. P. Reece.
Mount Hope	Sedgwick	1,410	16	.....	.....	.....	.....	.....	.....	.....	3.11	+ 0.37	1.25	0	7	13	7	10	s.	H. N. Renfrew.
Neosho Rapids	Lyon	1,092	8	.....	.....	.....	.....	.....	.....	.....	2.75	.....	1.22	0	7	14	1	15	ne.	W. H. McMullen.
Ness City	Ness	2,260	20	.....	.....	.....	.....	.....	.....	.....	5.22	+ 3.00	2.75	0	6	.....	.....	.....	.....	J. K. Barnd.
Newton	Harvey	1,454	16	70.1	− 0.5	106	5	39	21	41	3.30	+ 0.03	1.00	0	9	14	8	8	se.	H. A. Brush.
Norwich	Kingman	1,496	17	69.6	− 2.0	104	6	43	21†	34	5.03	+ 2.26	1.44	0	11	19	5	6	s.	N. I. Farris.
Oswego	Labette	899	19	69.4	− 2.8	103	5	41	21	33	7.05	+ 3.75	2.25	0	10	12	5	13	sw.	Jas. M. Currigan.
Pittsburg	Crawford	934	.....	.....	.....	.....	.....	.....	.....	.....	2.70	.....	0.80	0	11	10	7	13	sw.	A. L. Scott.
Plains	Meade	2,766	3	66.0	.....	99	7	38	21†	42	3.32	.....	1.08	0	5	17	10	3	.....	E. J. Henning.
Pratt	Pratt	1,950	18	68.9	− 1.5	105	6	41	21	43	4.47	+ 1.49	1.80	0	9	15	7	8	n.	T. J. Arnold.
Richfield	Morton	.....	2	64.0	− 5.0	99	2	34	21	41	2.96	+ 1.08	1.20	0	5	.....	.....	.....	.....	M. J. Allen.
Rome	Sumner	1,218	27	70.0	− 1.5	104	5	40	21†	42	5.40	+ 2.77	1.95	0	10	15	3	12	s.	D. M. Adams.
Santa Fe	Haskell	2,950	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	John J. Miller.
Sedan	Chautauqua	834	28	70.4	− 1.4	109	5	35	21	41	4.87	+ 1.21	2.50	0	5	13	5	12	s.	A. Y. Buckles.
Toronto	Woodson	1,040	16	70.6	− 0.8	109	5	38	22	43	2.07	− 2.30	0.86	0	5	16	3	11	s.	M. A. Webb.
Ulysses	Grant	3,050	22	66.4	− 3.2	98	2	36	21†	44	3.10	+ 1.51	1.25	0	4	18	3	9	se.	T. W. Marshall.
Walnut	Crawford	940	11	69.5	− 1.8	105	4	41	22	44	2.66	− 0.84	0.85	0	5	12	7	11	ne.	R. C. Harlan.
Wellington	Sumner	1,225	17	69.7	− 1.6	105	5	39	21	40	4.12	+ 1.03	0.92	0	9	14	9	7	s.	E. O. G. Kelley.
Wichita	Sedgwick	1,377	26	69.1	− 0.7	100	6	42	21	30	3.52	+ 0.39	1.15	0	9	11	9	10	s.	U. S. Weather Bureau.
Winfield	Cowley	1,124	19	69.4	− 1.7	100	4†	41	21	40	5.33	+ 2.09	2.05	0	6	18	5	7	s.	M. B. Light.
Yates Center	Woodson	1,068	34	.....	.....	.....	.....	34	20	.....	1.89	− 2.21	0.69	0	6	11[a]	13[a]	5[a]	se.	J. W. Tipton.

TABLE 1.—*Climatological data for September, 1913. District No. 7*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Sky.				Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Oklahoma.																				
Ada	Pontotoc	1,001	5	70.7	.....	104	5	45	21	35	3.73	.....	1.45	0	13	12	4	14	s.	H. P. Sugg.
Altus	Jackson	.....	....	71.0	.....	101	6	46	28	39	4.02	.....	1.26	0	10	17	2	11	e.	U. S. Weather Bureau.
Alva	Woods	1,350	8	69.2	.....	101	5†	46	22	41	5.74	.....	1.45	0	10	15	4	11	se.	S. A. Stech.
Apache	Caddo	1,255	3	71.4	.....	105	5†	41	21	44	5.70	.....	2.72	0	14	14	7	9	sw.	G. D. Teeter.
Arapaho	Custer	1,575	19	70.0	− 3.9	104	6	43	21	39	5.60	+ 2.76	1.15	0	11	12	10	8	s.	J. C. Brower.
Ardmore	Carter	872	11	72.3	− 4.0	108	5	47	21	38	4.91	+ 1.54	1.67	0	13	15	6	9	s.	H. T. Nisbett.
Bartlesville	Washington	687	5	72.8	.....	108	5	50	21†	37	7.07	.....	2.41	0	10	14	4	12	s.	Dr. A. P. Owens.
Beaver	Beaver	2,500	16	65.6	− 6.1	100	7	36	21	45	3.87	+ 1.81	1.28	0	11	15	12	3	s.	Elmer L. Fickel.
Buffalo	Harper	.....	....	67.5	.....	102	6	38	21	44	4.83	.....	1.38	0	9	.....	.....	.....	e.	Dr. R. R. Anderson.
Cache	Comanche	1,350	7	70.0	.....	102	6	43	25	42	6.80	.....	3.00	0	6	16	7	7	se.	Mrs. Frank Rush.
Calvin	Hughes	713	8	.....	.....	.....	.....	.....	.....	.....	6.12	.....	2.40	0	13	13	0	17	s.	Thomas Purcell.
Chandler	Lincoln	865	11	70.4	− 4.2	106	5	35	21	40	3.87	+ 1.59	1.50	0	6	13	0	17	s.	Hiram C. Tuttle.
Chattanooga	Comanche	1,150	7	70.6	.....	99	5†	42	21	36	5.06	.....	3.20	0	7	15	8	7	se.	Squire Humble.
Chickasha	Grady	1,091	11	71.6	− 2.9	105	5†	42	21	36	7.10	+ 4.88	3.30	0	7	15	2	13	n.	Anna W. O'Neill.
Cleveland	Pawnee	800	11	72.6	+ 0.2	109	5†	42	22	42	3.31	− 2.64	1.05	0	6	15	12	3	sw.	Chas. C. Breed.
Cloud Chief	Washita	1,400	11	71.9	− 3.0	103	6	42	21	38	4.38	+ 2.05	1.10	0	10	10	12	8	se.	J. P. Stutzman.
Crawford	Roger Mills	.....	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. J. Blackburn.
Durant	Bryan	643	11	71.2	− 4.3	106	5	46	21	36	6.75	+ 4.17	1.11	0	17	13	2	15	se.	Nelson Houk.
Eldorado	Jackson	1,456	6	71.8	.....	104	6	43	28	42	2.88	.....	0.65	0	7	17	4	9	n.	J. T. Black.
El Reno	Canadian	1,400	21	71.3[f]	− 0.7	102	....	45	....	34	5.44	+ 2.44	1.93	0	8	.....	.....	.....	e.	Rose E. Walker.
Enid	Garfield	1,269	11	69.8	− 4.0	105	6	40	25	36	9.72	+ 6.69	5.50	0	7	11	13	16	s.	Uri B. Worcester.
Erick	Beckham	2,058	8	68.8	.....	105	....	40	....	45[a]	6.41	.....	1.66	0	12	16[a]	4[a]	9[a]	n.	A. W. Hanes.
Eufaula	McIntosh	566	....	72.2	.....	105	5	39	21	42	4.59	.....	1.37	0	9	13	7	12	s.	R. Uhl Brown.
Fairland	Ottawa	839	13	71.8	− 1.4	106	5	41	21	38	3.16	+ 0.27	1.12	0	10	12	7	11	s.	C. W. Prier.
Fort Gibson	Muskogee	556	8	.....	.....	.....	.....	.....	.....	.....	4.56	.....	1.05	0	13	13	1	16	s.	John T. Welch.
Frederick	Tillman	1,293	6	72.7	.....	105	5	42	28	39	4.44	.....	1.25	0	9	15	3	12	s.	B. B. Bradley.
Geary	Blaine	1,546	1	70.0	.....	103	5	42	21	35	4.98	.....	1.57	0	12	15	8	7	ne.	O. P. Ruth.
Goodwell	Texas	3,300	2	.....	.....	98	21	41	....	....	3.63	.....	1.10	0	10	16	3	11	s.	S. W. Black.
Guthrie	Logan	1,000	20	71.6	− 2.5	104	1†	39	21	41	4.48	+ 1.40	2.00	0	7	14	3	13	e.	S. E. Snyder.
Guymon	Texas	3,133	3	.....	.....	.....	.....	.....	.....	.....	5.33	.....	1.50	0	9	.....	.....	.....	.....	A. L. Mordt.
Hammon	Roger Mills	.....	....	68.2	.....	102	6	41	14†	40	3.10	.....	0.82	0	11	10	9	11	ne.	E. G. Commons.
Hartshorne	Pittsburg	700	14	.....	.....	.....	.....	.....	.....	.....	7.55	+ 4.79	3.50	0	6	16	4	10	n.	Joe Bradley.
Healdton	Carter	900	19	72.6	− 3.1	106	5†	39	21	43	2.93	+ 0.76	1.85	0	5	12	12	6	se.	C. H. Heald.
Heavener	Leflore	.....	....	72.9	.....	102	4†	42	21	36	6.00	.....	1.25	0	14	13	1	16	s.	H. S. Bliss.
Helena	Alfalfa	1,396	5	72.2[e]	.....	107	....	45	....	37	6.55	.....	1.50	0	8	15	6	5	s.	J. G. McCall.
Hennessey	Kingfisher	1,166	18	.....	.....	.....	.....	.....	.....	.....	6.85	+ 3.98	3.20	0	8	11	13	6	s.	Mrs. M. C. Parks.
Hobart	Kiowa	1,396	10	70.3	.....	102	6	42	....	37[b]	5.40	.....	0.89	0	14	10	19	11	s.	J. M. Pate.
Holdenville	Hughes	900	12	71.0	− 2.9	105	5	44	21	37	8.22	+ 4.13	2.66	0	15	14	9	7	s.	Eula L. Rutherford.
Hooker	Texas	3,038	7	64.1	.....	99	....	37	....	52[a]	2.89	.....	1.14	0	8	10[a]	1[a]	18	s.	H. N. Kelly.
Hugo	Choctaw	.....	....	72.0	.....	104	....	46	21	36[a]	11.27	.....	4.60	0	11	8	10	12	e.	G. C. Montgomery.
Hurley	Cimarron	4,200	5	63.0	.....	95	7	37	21†	43	1.60	.....	0.60	0	5	12	12	6	sw.	Dr. C. W. Meyers.
Idabel	McCurtain	474	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. S. Ray.
Jefferson	Grant	1,062	19	70.0	− 3.3	104	5	43	21	39	8.59	+ 5.58	3.22	0	9	13	12	5	s.	T. F. Beck.
Kenton	Cimarron	4,000	12	63.0	− 5.3	97	2	32	21	51	1.49	− 0.17	0.41	T.	11	7	12	11	se.	Ralph H. Guy.
Kingfisher	Kingfisher	1,046	16	72.7	− 1.9	105	5	44	21	42	6.79	+ 3.59	3.06	0	9	8	13	9	s.	J. C. Cross.
Lawton	Comanche	1,111	....	71.2	.....	104	4	42	21	40	8.56	.....	3.73	0	9	15	3	12	se.	Frank M. Head.
Lawtonka Lake	do	.....	....	.....	.....	.....	.....	.....	.....	.....	6.58	.....	3.43	0	12	12	4	14	s.	W. S. Kesler.
McAlester	Pittsburg	698	16	72.4	.....	107	5	46	21	37	11.66	+ 8.43	3.88	0	16	16	0	14	e.	Wm. Noble.
Mangum	Greer	1,585	20	69.9	− 4.8	102	....	43	22	47[b]	4.51	+ 2.15	1.32	0	10	17	4	9	se.	F. D. Dodson.
Marlow	Stephens	1,292	12	71.1	− 2.7	105	5	39	26	38	5.22	+ 1.68	2.00	0	9	16	0	14	n.	Wm. B. Anthony.
Meeker	Lincoln	1,030	14	73.6	− 1.1	112	5	41	29	45	7.22	+ 4.68	2.90	0	6	15	4	11	s.	Dr. J. H. Baugh.
Muskogee (1)	Muskogee	.....	....	72.6	.....	107	5	44	21	36	5.54	.....	1.52	0	13	11	7	12	se.	U. S. Weather Bureau.
Muskogee (2)	Muskogee	614	14	.....	.....	105	5	.....	.....	.....	5.75	+ 2.97	1.26	0	10	12	1	17	se.	J. Harry Randall.
Mutual	Woodward	.....	5	68.0	.....	105	6	40	21	40	11.50	.....	4.95	0	5	16	5	8	s.	Thos. Martin.
Neola	Caddo	1,500	7	71.3	.....	103	6	44	21	36	4.90	.....	1.43	0	11	11	12	7	s.	R. N. Schooling.
Newkirk	Kay	1,149	15	71.2	− 2.5	108	5	41	21	40	6.41	+ 3.31	2.20	0	6	11	15	4	s.	H. P. Albright & Co.
Norman	Cleveland	1,171	18	71.0	− 3.7	106	5	43	21	39	6.16	+ 3.65	2.85	0	13	7	15	8	s.	S. E. Boyd.
North Muskogee	Muskogee	.....	....	.....	.....	.....	.....	.....	.....	.....	4.23	.....	1.83	0	11	11	2	17	s.	J. M. Cantrel.
Oakwood	Dewey	1,854	3	67.0	.....	100	6	38	21	42	4.92	.....	1.33	0	10	6	17	7	s.	Dr. E. E. Lawson.
Okeene	Blaine	1,194	8	69.9	.....	103	5	43	21	38	6.42	.....	1.37	0	13	13	11	6	s.	Dr. L. H. Murdock.
Okemah	Okfuskee	.....	....	72.0	.....	106	5	42	22	39	4.47	.....	1.95	0	7	12	4	14	n.	S. F. Smith.
Oklahoma	Oklahoma	1,247	23	70.1	− 1.0	101	5	45	21	30	4.80	+ 2.05	2.04	0	13	9	10	11	s.	U. S. Weather Bureau.
Okmulgee	Okmulgee	752	8	71.4	.....	102	4	40	23	46	3.12	.....	1.25	0	6	14	3	13	s.	J. L. Maynard.
Pauls Valley	Garvin	880	12	73.1	− 0.3	108	5	47	22	36	7.89	+ 4.17	3.12	0	12	11	10	9	s.	A. M. Foss.
Pawhuska	Osage	918	12	72.5	+ 0.3	106	4	42	21	46	6.02	+ 2.66	1.36	0	8	11	13	6	n.	R. C. Block.
Perry	Noble	920	14	74.1	+ 0.3	107	5	46	21	41	4.16	+ 1.36	2.00	0	8	11	16	3	s.	S. E. Laird.
Rankin	Roger Mills	2,200	9	66.2	.....	103	6	37	21	40	5.43	.....	1.38	0	11	16	5	9	ne.	Roy Kagay.
Ravia	Johnston	796	10	71.4	.....	108	5	44	21	45	8.63	.....	3.40	0	13	16	1	13	n.	R. G. Guptill.
Sac and Fox Agency	Lincoln	900	19	72.3	− 2.1	105	5	44	21	41	5.84	+ 3.33	2.05	0	9	5	16	9	nw.	Thos. Myers.
Shawnee	Pottawatomie	1,041	11	70.0	− 3.9	105	5	42	21	44	4.65	+ 1.65	1.58	0	10	3	20	7	se.	Mrs. Kate Chatman.
Snyder	Kiowa	1,356	6	71.7	.....	103	6	43	21	38	9.07	.....	2.25	0	9	13	12	5	s.	Mrs. H. M. Stevenson.
Stillwater	Payne	880	20	70.0	− 3.1	104	5	43	21	43	6.12	+ 2.88	3.90	0	7	10	6	14	s.	E. Tourtellotte.
Tahlequah	Cherokee	790	....	71.1	.....	105	5	38	21	40	3.69	.....	1.08	0	16	9	6	15	se.	G. P. Hardy.
Tulsa	Tulsa	700	24	72.0	.....	107	5	45	21†	37	3.44	+ 1.15	1.45	0	13	13	7	10	s.	Dr. H. M. Hutchinson.
Vinita	Craig	698	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Insane Hospital.
Wagoner	Wagoner	588	16	72.2	− 2.6	105	5	42	....	37[a]	7.68	+ 4.55	5.04	0	7	8	13	9	s.	Moro Hatfield.
Waukomis	Garfield	1,258	16	70.9	− 3.1	106	6	45	21†	40	6.45	+ 3.64	2.70	0	10	11	14	5	se.	R. C. Shades.
Waurika	Jefferson	988	2	73.9	.....	105	5	44	21	38	3.26	.....	2.00	0	8	15	7	8	s.	B. A. Swindler.
Weatherford	Custer	1,639	11	69.6	− 4.1	106	6	43	21	44	4.77	+ 1.65	1.11	0	10	14	6	10	s.	Eugene Forbes.
Webbers Falls	Muskogee	479	14	73.4	− 1.7	109	5	42	....	41[c]	5.65	+ 2.48	1.90	0	7	6	17	7	e.	B. D. Boulineau.
Whiteagle	Kay	945	9	71.6	.....	106	5	43	21	38	5.44	.....	1.42	0	9	11	6	13	ne.	Jessie W. Smith.
Woodward	Woodward	1,900	10	66.0	.....	101	6	35	21	46	4.89	.....	0.93	0	13	9	11	10	w.	Mrs. Ida C. Baird.
Wyandotte	Ottawa	.....	....	.....	.....	.....	.....	.....	.....	.....	4.00	.....	1.30	0	7	15	0	15	e.	James J. Bruton.
Missouri.																				
Belle	Maries	.....	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. J. Wofford.
Birchtree	Shannon	1,200	21	69.6[e]	− 0.3	104	4	40	22	33	8.31	+ 5.08	2.31	0	12	10[a]	7[a]	12[a]	s.	V. H. Kirkendall.
Cape Girardeau	Cape Girardeau	346	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	D. L. Albert.
Cardwell	Dunklin	.....	3	72.6	.....	102	3†	38	22	40	5.28	.....	1.96	0	10	14[c]	7[c]	6[c]	s.	E. M. Perry.
Caruthersville	Pemiscot	.....	23	73.6	+ 0.7	104	3†	40	22	38	3.39	+ 0.21	1.08	0	8	17	4	9	se.	H. E. Averill.
Cassville	Barry	.....	3	67.6	.....	102	4	36	21	45	5.25	.....	1.27	0	11	11	8	11	s.	Mrs. Zuma Bloomer.
Dean	McDonald	.....	15	69.6	− 1.8	104	5	35	22	43	5.14	+ 1.98	1.58	0	10	13[c]	1[c]	13[c]	.....	H. E. Dean.
Doniphan	Ripley	440	10	70.1	− 1.4	102	4	39	22	36	7.65	+ 3.93	2.86	0	12	12	3	15	ne.	W. W. Martin.
Fruit City	Reynolds	1,150	1	70.2	.....	103	3	40	21†	33	10.82	.....	4.08	0	10	15	5	10	e.	R. C. Walton.
Gano	Dent	.....	11	69.1	− 1.6	106	3	38	22	38	7.78	+ 3.25	3.26	0	11	13	7	10	se.	A. C. Leech.

TABLE 1.—*Climatological data for September, 1913. District No. 7*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, 0.01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
***Missouri*—Continued.**																				
Goodland	Iron	900	9	67.5	.....	107	4	34	22	46	4.81	.....	2.80	0	8	10	7	13	s.	F. M. Adams.
Hollister	Taney	850	4	67.4	.....	98	4†	46	22†	38	6.67	.....	1.90	0	12	12	0	18	ne.	W. P. Chapmann.
Ironton	Iron	925	36	68.2	+ 0.5	103	4	34	22	40	5.30	+ 1.81	2.17	0	11	7	8	15	s.	W. H. Delano.
Jackson	Cape Girardeau	458	23	71.4	+ 1.6	105	3	39	22	42	6.69	+ 3.10	3.72	0	8	9	10	11	s.	L. M. Bean.
Joplin	Jasper	979	32	69.8	− 2.8	97	2	42	21	28	2.20	− 1.90	0.60	0	7	12[a]	5[a]	12[a]	e.	Joplin High School.
Koshkonong	Oregon	911	14	70.2	− 0.9	103	4	43	21	30	7.12	+ 3.91	2.00	0	12	8	11	11	se.	J. W. Hitt.
Lamar	Barton	964	33	70.4	0	105	4	40	22	41	2.91	− 1.22	0.71	0	12	13	4	13	s.	E. H. Adams.
Marble Hill	Bollinger	420	22	67.8	− 3.0	104	4	38	22†	51	5.13	+ 1.44	3.60	0	6	16	9	5	s.	A. F. Hendricks.
Mountaingrove	Wright	1,490	15	68.0	− 1.0	102	4	40	21	32	5.93	+ 2.09	1.62	0	12	11	5	14	se.	Mo. Fruit Exp. Sta.
Mount Vernon	Lawrence	1,480	37	70.3[d]	− 1.3	104	4	40	21	40	4.50	+ 0.98	1.25	0	9	15[a]	0[a]	10[a]	sw.	J. R. White & Son.
Neosho	Newton	1,023	31	69.8	− 0.6	100	4†	38	21	38	4.76	+ 0.67	1.25	0	12	16	1	13	se.	W. O. Buck.
New Madrid	New Madrid	285	20	.....	.....	.....	.....	.....	.....	.....	5.41	+ 2.19	2.21	0	9	11	2	17	se.	Miss Josie Smith.
Oakfield	Franklin	793	22	70.1	− 0.5	105	4	36	22	33	5.10	+ 1.11	1.72	0	11	4	17	9	s.	E. E. Steines.
Rolla	Phelps	1,139	33	69.9	+ 2.5	105	4	38	22	39	4.68	+ 0.88	1.29	0	9	18[a]	4[a]	7[a]	e.	Prof. P. J. Wilkins.
Springfield	Greene	1,350	27	68.4	+ 0.3	99	4	41	21	28	3.85	+ 0.09	1.82	0	11	14	6	10	se.	U. S. Weather Bureau.
Kentucky.																				
Blandville	Ballard	445	32	70.8	− 0.2	98	4	43	22	27	2.18	− 0.80	0.54	0	10	9	8	13	se.	E. W. Horr.
Tennessee.																				
Arlington	Shelby	.....	31	71.8	+ 0.2	98	2	41	22	40	5.94	+ 3.58	1.89	0	11	10	1	19	e.	A. Thomas B. Etheridge.
Bolivar	Hardeman	450	30	71.0	− 0.9	99	3†	42	22	37	3.73	+ 0.84	2.18	0	10	13	1	16	sw.	Miss Mary A. Smith.
Brownsville	Haywood	361	31	72.1	− 0.3	98	3†	48	21†	32	2.51	− 0.08	0.73	0	12	14	2	14	se.	Robert Y. Moses.
Covington	Tipton	311	30	71.7	− 0.9	96	4	44	22	28	2.95	+ 0.32	1.10	0	9	17	0	13	s.	James S. Ruffin.
Dyersburg	Dyer	310	30	72.6	+ 0.3	99	4	43	22†	37	3.00	+ 0.05	0.90	0	7	17	2	11	se.	Miss Martha A. Sinclair.
Jackson	Madison	450	23	73.1[d]	+ 0.2	103	3	44	21	46[d]	3.65	+ 1.12	2.20	0	5	.....	.....	.....	.....	Shelby A. Robert.
Kenton	Obion	325	11	70.8	− 2.6	99	4	39	22	37	2.82	+ 0.05	0.61	0	10	12	4	14	s.	George S. Martin.
Memphis	Shelby	409	42	72.8	0.0	94	4	47	21	22	6.01	+ 2.96	2.07	0	15	9	7	14	s.	U. S. Weather Bureau.
Milan	Gibson	440	31	71.3	− 0.4	100	4	44	22†	40	3.22	+ 0.31	1.35	0	9	11	2	17	s.	Orlando F. Cantwell.
Trenton	do	345	33	72.9	+ 1.9	103	3	37	22	40	3.70	+ 0.70	1.82	0	8	17	5	8	se.	F. L. Dennison.
Union City	Obion	360	18	71.6	+ 1.2	100	1	40	21	40	2.81	− 0.22	0.90	0	8	10	13	7	se.	J. R. Oliver.
Arkansas.																				
Alicia	Lawrence	.....	9	70.0	.....	100	4	42	22	44	5.50	.....	1.90	0	8	14	7	9	s.	McCullough & Guelck.
Amity	Clark	250	22	71.4	− 1.7	105	4	43	22	38	16.28	+13.50	3.20	0	12	15	7	8	e.	J. W. Campbell.
Arkansas City	Desha	145	30	.....	.....	.....	.....	.....	.....	.....	10.87	+ 8.41	2.40	0	12	.....	.....	.....	.....	W. C. Blundell.
Batesville	Independence	271	14	.....	.....	.....	.....	.....	.....	.....	9.40	+ 5.67	1.38	0	15	.....	.....	.....	.....	Lelia I. Teter.
Bee Branch	Van Buren	.....	22	71.6	− 2.2	108	4	40	22	40	8.30	+ 5.26	2.00	0	14	9	7	14	.....	J. E. Scanlan.
Bentonville	Benton	1,303	8	68.8	− 0.1	99	5	43	22	34	3.96	+ 0.49	0.97	0	12	11	5	14	s.	U. S. Weather Bureau.
Bergman	Boone	1,324	15	69.4	+ 0.4	106	4†	40	21	41	7.91	+ 4.35	1.80	0	14	13	3	14	se.	John T. Maxey.
Black Rock	Lawrence	259	10	.....	.....	.....	.....	.....	.....	.....	5.23	.....	2.40	0	13	.....	.....	.....	.....	S. J. Howe.
Brinkley	Monroe	226	29	73.2	0.0	106	4	40	22	42	15.11	+12.52	3.90	0	15	7	11	12	s.	H. L. D. Whitson.
Calico Rock	Izard	361	10	.....	.....	.....	.....	.....	.....	.....	5.35	.....	1.20	0	8	.....	.....	.....	.....	J. W. Wray.
Camden	Ouachita	158	28	73.7	− 0.7	106	4	40	22	41	13.43	+10.08	2.93	0	16	.....	.....	.....	.....	R. H. Quarterman.
Centerpoint	Howard	470	14	71.6	− 5.1	98	4	44	22	33	11.43	+ 6.87	3.96	0	12	11	5	14	se.	J. M. Huddleston.
Clarendon	Monroe	171	9	.....	.....	.....	.....	.....	.....	.....	14.17	.....	2.79	0	18	.....	.....	.....	.....	Mrs. B. E. Bishop.
Conway	Faulkner	309	30	71.5	− 1.8	106	4	43	22	38	9.24	+ 5.68	1.52	0	14	12	7	11	e.	G. H. Burr.
Corning	Clay	293	21	.....	.....	.....	.....	.....	.....	.....	6.68	+ 2.99	2.17	0	15	7	7	16	s.	Jacob Brobst.
Dardanelle	Yell	330	27	71.8	.....	106	4	42	22	41	9.96	+ 6.89	2.69	0	14	.....	.....	.....	.....	A. Bernard.
Dodd City	Marion	1,175	32	70.2	− 1.4	104	4	38	22	39[b]	9.16	+ 5.40	1.60	0	12	.....	.....	.....	.....	Neal Dodd.
Dumas	Desha	.....	2	.....	.....	.....	.....	.....	.....	.....	14.20	.....	3.70	0	9	12	10	8	.....	Lawrence Waterman.
Dutton	Madison	.....	11	67.0	− 2.2	100	5	33	21	42	12.76	+ 9.07	4.00	0	11	13	4	13	s.	J. M. Ricketts.
Eldorado	Union	265	9	73.0	.....	100	4†	44	22	34	17.84	.....	4.00	0	12	.....	.....	.....	.....	Jeff J. Babb.
England	Lonoke	.....	7	72.6	.....	103	4	42	22	35	14.52	.....	2.65	0	16	.....	.....	.....	.....	J. C. Chenault.
Eureka Springs	Carroll	1,465	12	70.4	− 1.5	103	4†	40	21	40	6.39	+ 2.55	1.37	0	13	10	8	12	ne.	George W. Nichoalds.
Fayetteville	Washington	1,451	23	69.8	− 1.4	103	5	41	21	34	3.78	+ 0.20	1.46	0	12	10	9	11	ne.	University of Arkansas.
Fordyce	Dallas	.....	3	73.9	.....	101	5	51	23	32	15.54	.....	4.00	0	10	.....	.....	.....	s.	J. B. Atkinson.
Forth Smith	Sebastian	481	32	72.4	− 0.3	102	4	45	22	35	4.99	+ 1.82	1.30	0	14	8	8	14	e.	U. S. Weather Bureau.
Fulton	Hempstead	264	25	.....	.....	.....	.....	.....	.....	.....	10.30	+ 7.93	3.50	0	12	.....	.....	.....	.....	B. C. Logan.
Georgetown	White	200	1	.....	.....	.....	.....	.....	.....	.....	11.13	.....	2.55	0	16	.....	.....	.....	.....	Wm. N. Harris.
Hardy	Sharp	643	16	70.6	− 1.6	106	4	42	21	36	6.67	+ 2.86	2.50	0	16	3	10	17	sw.	C. A. Caywood.
Helena	Phillips	182	40	71.6	− 2.6	98	4	44	22	29	5.39	+ 1.75	1.75	0	13	.....	.....	.....	.....	W. Schwarz.
Hot Springs	Garland	600	22	73.8	− 0.9	104	5	45	22	35	11.72	+ 8.12	2.80	0	10	17	8	5	sw.	Army and Navy Gen. Hosp.
Huttig	Union	85	6	74.0	.....	102	4	43	22	36	14.11	.....	3.66	0	14	4	20	6	.....	C. A. Berry.
Jonesboro	Craighead	345	18	72.2	− 2.0	104	4	42	21	36	5.00	+ 1.24	1.10	0	10	2	18	10	s.	Benedictine Sisters.
Junction	Union	.....	18	73.4	− 1.2	96	4	43	22	31	10.24	+ 8.33	.....	0	9	10	5	15	sw.	J. A. Lowderback.
Lake Farm	Jefferson	195	5	.....	.....	.....	.....	.....	.....	.....	7.82	.....	1.40	0	9	.....	.....	.....	.....	G. L. Spellman.
Lewisville	Lafayette	262	9	73.4	.....	104	4†	45	22	35	11.05	.....	2.61	0	12	11	7	12	.....	F. W. Youmans.
Little Rock	Pulaski	357	35	71.7	− 1.4	101	4	46	22	29	9.25	+ 5.99	1.92	0	17	12	2	16	e.	U. S. Weather Bureau.
Lutherville	Johnson	775	14	71.2	− 2.0	103	5	40	22	35	7.00	+ 3.48	1.34	0	15	5	18	7	se.	W. R. Hentschel.
Malvern	Hot Spring	277	29	71.8	− 2.3	102	4†	44	22	35	16.75	+14.15	2.90	0	15	.....	.....	.....	.....	Miss L. C. Smith.
Mammoth Spring	Fulton	512	9	70.7	.....	104	4	39	22	39	5.77	.....	1.61	0	12	5	15	10	.....	F. Wallick.
Marked Tree	Poinsett	229	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Chapman & Dewey Lumber Co.
Mena	Polk	1,100	23	70.9	− 2.2	102	5	46	22	30	9.87	+ 6.05	2.25	0	15	13	7	10	ne.	E. W. St. John.
Newport	Jackson	231	30	72.0	− 1.3	105	4	42	22	35	9.83	+ 6.17	2.05	0	15	.....	.....	.....	.....	Wiley W. McMann.
Pine Bluff	Jefferson	215	28	72.8	− 2.9	103	4	43	22	37	15.44	+11.70	2.85	0	14	.....	.....	.....	.....	J. H. Hudson.
Pocahontas	Randolph	.....	20	72.3	+ 0.5	104	4	42	22	36	4.81	+ 1.51	1.40	0	12	7	8	15	.....	Benedictine Sisters.
Pond	Benton	1,250	16	67.9	− 2.2	101	5	36	21	41	.....	.....	.....	.....	.....	1	15	14	se.	A. F. Stevens.
Portland	Ashley	122	5	74.9	.....	105	3	41	22	43	7.62	.....	2.05	0	11	.....	.....	.....	.....	T. A. Corson.
Prescott	Nevada	327	31	72.4	− 3.2	106	4	42	22†	38	12.88	+10.25	3.52	0	13	.....	.....	.....	.....	Mrs. G. Cummings.
Rogers	Benton	1,385	21	69.0	− 1.4	99	4†	41	22	35	4.27	+ 0.77	1.25	0	12	14	1	15	s.	Carl A. Starck.
Springbank	Miller	182	5	.....	.....	.....	.....	.....	.....	.....	15.95	.....	5.00	0	15	.....	.....	.....	.....	G. Field.
Stuttgart	Arkansas	495	26	73.6	+ 0.5	104	4	44	22†	36	12.54	+ 9.25	3.22	0	15	11	11	8	s.	H. A. Buerkle.
Subiaco	Logan	1,050	17	73.4	− 1.4	104	4†	41	21†	41[b]	6.66	+ 3.49	0.86	0	14	.....	.....	.....	se.	New Subiaco Abbey.
Swain	Newton	2,300	3	67.4	.....	97	4	45	26†	27	9.27	.....	2.41	0	13	12	7	11	s.	George Paxton.
Texarkana	Miller	332	29	73.4	− 3.0	104	4	45	21†	39[a]	9.61	+ 6.70	3.65	0	14	.....	.....	.....	.....	D. E. Moore.
Warren	Bradley	304	19	73.6	− 2.0	103	4	43	22	36	15.40	+11.96	2.90	0	14	.....	.....	.....	.....	W. J. Savage.
Whitecliffs	Little River	206	9	.....	.....	.....	.....	.....	.....	.....	9.45	.....	2.30	0	12	.....	.....	.....	.....	F. B. Lane.
Wiggs	Garland	.....	19	71.0	− 2.9	105	5	38	22	42	11.54	+ 7.85	2.11	0	14	9	12	9	sw.	S. D. Jester.
Wynne	Cross	250	6	72.6	.....	101	4	42	22	34	11.42	.....	2.00	0	14	.....	.....	.....	.....	John Seals.

TABLE 1.—*Climatological data for September, 1913. District No. 7*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, 0.01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Mississippi.																				
Anguilla	Sharkey	107	5	74.7	.....	98	4	42	22	35	8.00	.....	1.65	0	15	9	7	14	se.	E. W. Cook.
Austin	Tunica	200	17	73.5	− 0.2	100	1	41	22	36	9.02	+ 5.55	3.58	0	12	13	8	9	s.	H. J. Irvine.
Batesville	Panola	230	26	73.2	0.0	101	1	41	22	45	6.71	+ 3.62	1.80	0	12	13	1	16	s.	J. M. Cox.
Big Creek	Calhoun		2																	J. P. Havens.
Canton	Madison	228	23	75.4	− 0.3	100	1	42	22	37	5.75	+ 2.78	1.36	0	12	9	8	13	se.	Dr. G. W. Smith-Vaniz.
Charleston	Tallahatchie	.....	3	73.6	.....	98	3†	40	22	36	8.96	.....	3.20	0	12	8	6	16	s.	W. B. Burke.
Clarksdale	Coahoma	177	6	73.0	.....	100	4	43	22	35	4.92	.....	1.21	0	16	9	2	19	se.	A. C. Tuttle.
Cleveland	Bolivar	160	1																	W. W. Boone.
Coffeeville	Yalobusha	241	4								6.78	.....	1.24	0	15	5	22	3	sw.	C. K. Bailey.
Corinth	Alcorn	470	25	73.0	+ 0.6	102	3	42	22	34	5.32	+ 2.51	3.18	0	11	12	2	16	se.	M. A. Candler.
Crenshaw	Panola	187	4								5.50	.....	3.20	0	6	12	4	14	n.	Rodgers Woollard.
Duck Hill	Montgomery	.....	14	74.6	− 0.1	100	1†	40	22	38	8.73	+ 5.64	.....	0	11	.....	.....	.....	.....	W. H. Eskridge.
Edwards	Hinds	222	26	75.4	− 1.5	98	4†	44	22	36	9.95	+ 6.73	2.20	0	16	13	14	3	s.	E. F. Farr.
Fayette	Jefferson	270	12	73.1	− 2.3	93	1†	42	22	37	10.12	+ 5.85	4.64	0	16	8	13	9	sw.	T. L. Darden
Greenville	Washington	126	26	75.1	− 0.6	102	4	44	22	37	10.95	+ 7.90	3.48	0	17	12	2	16	se.	M. G. Harbison.
Greenwood	Leflore	140	13	74.1	− 1.0	100	4	41	22	38	5.42	+ 2.27	1.41	0	13	11	3	16	se.	J. H. Stephen.
Grenada	Grenada	194	4								4.70	.....	0.90	0	12	.....	.....	.....	.....	W. F. Hallam.
Hernando	De Soto	391	25	73.6	− 0.5	100	1†	44	21	33	8.98	+ 5.79	4.12	0	11	12	3	15	s.	W. F. Wood.
Hickory Flat	Benton	435	4								5.83	.....	2.15	0	7	6	13	11	.....	H. Powell.
Holly Bluff	Yazoo	.....	5								7.25	.....	3.01	0	11	9	10	11	.....	W. C. Sharbrough.
Holly Springs	Marshall	600	26	71.8	− 1.9	97	1	44	22	30	7.84	+ 4.47	2.43	0	16	11	2	17	se.	L. B. Mosby.
Kosciusko	Attala	430	23	73.8	− 1.2	101	3	41	22	37	6.18	+ 3.09	1.82	0	15	12	11	7	se.	E. L. Lucas.
Malone	Marshall		4								3.82	.....	1.02	0	13	.....	.....	.....	.....	M. J. Wilkins.
Moorhead	Sunflower	117	.....	73.0	.....	100	3	38	22	40	5.05	.....	1.42	0	11	.....	.....	.....	.....	H. S. Grove.
Natchez	Adams	206	25	74.2	− 3.1	97	4	44	22	34	8.17	+ 4.70	2.37	0	13	11	4	15	se.	Catharine E. Garrity.
Pontotoc	Pontotoc	475	24	73.0	− 0.7	95	1†	44	22	29	8.44	+ 5.37	3.30	0	11	9	11	10	nw.	Dr. C. W. Bolton.
Port Gibson	Claiborne	116	25	73.6	− 2.2	94	1†	42	22	37	9.71	+ 6.58	2.38	0	15	9	6	15	e.	H. H. Crisler.
Rosedale	Bolivar	143	5	72.6	.....	100	4	43	22	37	11.45	.....	2.00	0	15	11	1	18	sw.	T. J. Murray.
Shoccoe	Madison	.....	10	73.4[a]	.....	90	12	45	22	36	6.80	+ 3.44	2.24	0	7	.....	.....	.....	.....	J. C. Pitchford.
Suffolk	Franklin	.....	12	74.2	− 3.6	97	3	42	22	36	6.09	+ 2.18	2.22	0	15	6	7	17	se.	Prof. Geo. H. Kent.
Swan Lake	Tallahatchie	148	8								5.80	.....	1.20	0	8	16	1	13	.....	Dr. S. D. Robinson.
Tchula	Holmes	130	8	75.4	.....	99	4	41	22	38	4.06	.....	1.01	0	9	5	22	3	sw.	Dr. M. P. Winkler.
University	Lafayette	502	20																	Prof. J. H. Dorroh.
Utica	Hinds	287	9	74.8	.....	98	3	43	22	36	8.82	.....	1.60	0	14	.....	.....	.....	se.	Dr. J. B. Dudley.
Vicksburg	Warren	247	42	74.7	− 0.1	95	4	50	22	25	9.99	+ 6.65	3.89	0	14	7	6	17	e.	U. S. Weather Bureau.
Water Valley	Yalobusha	300	24	72.8	− 1.9	100	1†	42	20†	34	7.75	+ 4.32	1.90	0	11	3	15	12	ne.	Miss Loula Erikson.
Woodville	Wilkinson	560	20	74.6	− 2.6	94	1†	49	21†	29	6.43	+ 2.90	1.10	0	19	7	18	5	se.	James E. Lee.
Yazoo City	Yazoo	116	19	74.9	− 1.6	99	4	42	22	32	4.28	+ 1.57	1.43	0	10	14	1	15	ne.	W. H. Courts.
Louisiana.																				
Abbeville	Vermilion	18	25	75.0	− 3.2	91	4	52	21	22	24.02	+19.74	7.00	0	22	5	8	17	n.	Hon. C. J. Edwards.
Alexandria	Rapides	77	25	73.5	− 3.8	95	4	48	21†	32	10.46	+ 7.50	2.25	0	15	11	1	18	e.	Miss Nellie Graham.
Amite	Tangipahoa	130	25	74.8	− 2.5	93	2	45	22	34	14.62	+ 9.85	1.90	0	15	13	3	14	n.	Miss L. M. Wentz.
Angola	West Feliciana	.....	.....	76.7	.....	101	2	45	22	37	8.20	.....	1.60	0	15	9	0	21	s.	Capt. John Brogan.
Antioch	Claiborne	.....	1	73.0	.....	101	4†	43	22	36[c]	16.47	.....	3.67	0	15	14	0	16	n.	W. L. Anglin.
Avoca Island	St. Mary	9	2								11.32	.....	4.00	0	19	7	17	6	.....	J. N. Pharr & Sons.
Baton Rouge	E. Baton Rouge	60	25	76.8	− 1.0	94	1†	49	22	32	8.84	+ 4.65	1.58	0	19	10	2	18	ne.	Elmo M. Bott.
Burnside	Ascension	20	13	76.6[f]	− 0.8	97	3	48	21	35[f]	9.94	+ 4.57	2.00	0	16	.....	.....	.....	.....	C. S. McFarland.
Burrwood	Plaquemines	1	25	78.6	− 1.7	90	4	65	22	17	15.54	+ 8.78	5.22	0	17	7	13	10	ne.	Graham Myers.
Cades	St. Martin	.....	3	77.2	.....	95	1	52	22	29[a]	21.40	.....	4.15	0	18	9	9	12	se.	C. E. Smedes.
Calhoun	Ouachita	180	25	73.6	− 1.7	101	4†	43	22	34	12.58	+ 9.32	2.78	0	15	8	11	11	s.	North Louisiana Expt. Sta.
Cameron	Cameron	6	20	72.5	− 7.0	97	4	47	22	34	17.40	+12.08	6.12	0	15	5	17	8	se.	Adolph Bruckert.
Carrollton	Orleans	7	2	76.9	.....	95	3	51	22	27[a]	.....	.....	.....	0	.....	16	7	7	.....	Loyola College.
Cheneyville	Rapides	67	25	74.2	− 2.7	96	1†	44	22	40	20.15	+17.24	5.80	0	14	8	4	18	e.	Walter I. Tanner.
Cinclare	West Baton Rouge	.....	3	76.6	.....	95	3	48	21	36	10.68	.....	2.00	0	18	7	6	17	e.	Cinclare Central Factory.
Clinton	East Feliciana	113	25	74.8	− 1.9	93	4	45	22	32	4.66	+ 0.69	0.91	0	17	10	5	15	n.	John A. White.
Collinston	Morehouse	65	12	76.0	− 0.8	100	4	44	22	36	13.01	+ 9.68	3.87	0	12	8	7	15	s.	J. B. Reily.
Covington	St. Tammany	39	21	75.8	− 2.0	97	3	46	22	36	10.22	+ 5.72	4.25	0	13	9	4	17	e.	Cecile P. Champagne.
Dodson	Winn	.....	4	74.2	.....	100	4†	45	22	33	14.71	.....	4.67	0	14	7	9	14	e.	J. P. Lucas.
Donaldsonville	Ascension	33	25	78.0	− 0.8	95	3	52	22	31	11.55	+ 6.95	2.60	0	15	13	5	12	e.	John F. Park.
Dutchtown	....do	.....	2								11.97	.....	1.64	0	17	7	8	15	.....	Pucard & Geismar (Ltd.).
Farmerville	Union	177	25	73.0[d]	− 2.6	98	4	44	21	31[d]	13.97	+11.18	2.05	0	13	9	9	12	s.	W. P. Chandler.
Florence	Vermillion	.....	1	76.2	.....	93	3†	55	20	30	16.60	.....	5.70	0	12	8	15	7	se.	White Lake Land Co.
Franklin	St. Mary	10	21	77.6	− 1.4	97	1	51	22	32	15.50	+ 9.74	6.10	0	20	11	4	15	e.	Miss J. M. Bonney.
Franklinton	Washington	.....	3	77.6	.....	96	3†	61	16	31	10.07	.....	1.50	0	13	9	3	18	se.	Ogden C. Doremus.
Grand Cane	De Soto	302	19	67.2	− 8.9	97	5	36	21	41	10.66	+ 7.45	2.70	0	16	11	0	19	e.	G. Foster Provost.
Grand Coteau	St. Landry	93	25	76.8	− 0.8	98	4	51	21†	29	16.80	+13.33	4.80	0	21	11	4	15	ne.	St. Charles College.
Hammond	Tangipahoa	44	21	76.2	− 1.1	97	3	46	22	31	12.10	+ 8.48	1.90	0	15	12	9	9	se.	C. C. Carr.
Houma	Terrebonne	.....	25								10.66	+ 4.74	1.55	0	12	13	0	17	se.	Prof. John M. Foote.
Jeanerette	Iberia	.....	15	76.8	− 1.2	94	4	50	21†	29	20.36	+15.24	8.83	0	19	13	0	17	ne.	Capt. E. B. Trotman.
Jena	La Salle	.....	2																	C. Estus Wilbanks.
Jennings	Calcasieu	30	16	76.9	− 1.2	96	5	50	21	36	13.32	+ 8.80	4.30	0	16	3	8	19	se.	J. F. Buch.
Laark	Morehouse	.....	1	74.8	.....	101	4	48	23	36	7.55	.....	2.70	0	12	2	11	17	.....	P. M. Donley.
Lafayette	Lafayette	36	25	75.7	− 2.0	93	4	50	21	29	14.46	+10.99	4.67	0	18	10	3	17	e.	J. J. Davidson.
Lake Charles	Calcasieu	22	25	74.2	− 3.5	97	4	46	22	36	17.22	+13.56	2.67	0	17	13	0	17	n.	George Boudreaux.
Lakeside	Cameron	9	12	72.1	− 7.0	90	1†	52	18†	21	21.75	+17.71	8.15	0	14	8	9	13	e.	Miss L. J. Nunemacher.
Lawrence	Plaquemines	6	22	78.4	− 1.0	94	3	54	22	23	8.09	+ 1.75	2.60	0	12	10	7	13	se.	Hon. H. C. Warmoth.
Liberty Hill	Bienville	.....	25	75.1	− 1.9	100	1†	43	22	39	18.23	+15.28	5.35	0	16	11	3	16	s.	Dr. E. A. Crawford.
Logansport	De Soto	192	9								16.14	.....	4.50	0	15	12	1	17	s.	Mrs. Bettie M. Dennis.
Melville	St. Landry	45	25	74.6	− 2.5	97	4	45	22†	36	9.13	+ 5.76	4.30	0	14	9	1	20	e.	Charles B. McNeill.
Minden	Webster	194	25	73.0	− 4.0	103	4	43	21	43	12.65	+10.30	2.47	0	17	7	8	15	e.	Miss Ethel Fort.
Monroe	Ouachita	82	25	74.4	− 1.3	100	4	46	22	33	12.93	+ 9.97	2.80	0	19	5	1	24	ne.	Kathryn Key.
Morgan City	St. Mary	14	7								9.11	.....	2.65	0	14	6	3	21	e.	Virgil E. Kinsey.
Napoleonville	Assumption	.....	4	77.2	.....	94	3	51	21	31	12.70	.....	1.45	0	16	5	0	25	.....	Leon Godchaux Co. (Ltd.).
Newellton	Tensas	.....	6	73.6	.....	93	1	44	22	37	8.71	.....	3.76	0	12	.....	.....	.....	.....	John D. Fultz.
New Iberia	Iberia	15	25	76.3	− 1.7	92	4	52	21†	24	20.93	+16.44	7.70	0	18	6	14	10	e.	Mrs. John A. Gebert.
New Orleans (1)	Orleans	51	42	78.0	0.0	93	3	59	22	18	11.84	+ 7.03	5.04	0	16	5	9	16	se.	U. S. Weather Bureau.
New Orleans (2)	....do	18	25	78.2	0.0	95	3	49	22	34	13.89	+ 7.91	3.81	0	.....	2	7	21	s.	Sugar Experiment Station.
Opelousas	St. Landry	83	21	75.2	− 2.7	98	4	47	21†	34	14.79	+11.07	6.08	0	15	9	2	19	e.	Andrew Moresi.
Paradis	St. Charles	.....	2								12.58	.....	2.25	0	16	.....	.....	.....	.....	R. E. Boyce.
Pearl River	St. Tammany	29	7								7.38	.....	2.30	0	15	14	5	11	e.	Geo. F. Bancks.
Plain Dealing	Bossier	268	21	73.8	− 2.9	104	4	43	22	36	14.54	+11.85	5.86	0	16	10	0	20	se.	Leon Sanders.
Rayne	Acadia	44	21	76.6	− 1.7	97	4	50	21†	30	16.56	+12.49	6.50	0	17	13	0	17	n.	A. P. McNeill.

TABLE 1.—*Climatological data for September, 1913. District No. 7*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, 0.01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Louisiana—Continued.																				
Reserve	St. John Baptist	.....	12	78.4	+ 0.6	101	3†	46	22	39	16.32	+11.49	2.96	0	13	7	9	14	.....	Leon Godchaux (Ltd.).
Richland Plantation	Rapides	.....	1	76.0	.....	98	1†	46	22	32	18.78	.....	5.85	0	19	11	4	15	se.	A. B. Pendleton.
Robeline	Nachitoches	147	17	73.3	− 2.3	100	4	41	22	41	15.90	+13.05	3.96	0	13	10	3	17	s.	Anna R. McCook.
Ruston	Lincoln	312	18	74.7	− 3.1	100	1†	42	21	39	17.82	+14.84	8.50	0	....	11	8	11	e.	Andor M. Larson.
St. Francisville	West Feliciana	115	10	77.5	.....	98	4	48	22	35	7.13	.....	1.70	0	16	12	13	5	e.	G. W. Newman.
St. Gabriel	Iberville	.....	.....	76.2	.....	92	2	56	21	21	9.06	.....	3.00	0	13	10	2	18	ne.	Capt. J. B. Murphy.
Schriever	Terrebonne	17	21	76.6	− 1.7	93	1†	49	22	33	6.85	+ 1.78	1.20	0	11	17	4	9	e.	William H. Gautreaux.
Shreveport	Caddo	249	42	73.4	− 2.3	98	4	49	21	28	16.46	+13.24	7.04	0	16	10	5	15	se.	U. S. Weather Bureau.
Simmesport	Avoyelles	42	7	.....	.....	.....	.....	.....	.....	.....	8.43	.....	2.95	0	14	7	0	23	e.	Cassius T. Leigh.
Southern University Farm.	Jefferson	.....	16	.....	.....	.....	.....	.....	.....	.....	12.51	+ 7.67	2.10	0	16	4	9	17	se.	F. L. St. Martin.
Sugartown	Calcasieu	.....	20	75.4	− 2.0	94	4	50	21	27	21.50	+18.81	4.90	0	10	3	13	14	.....	G. W. Richardson.
Tallulah	Madison	91	6	75.0	.....	99	1†	42	23	32	9.80	.....	2.62	0	14	....	....	....	.....	Neal T. Halt.
Walker	Livingston	.....	3	74.8	.....	96	3†	36	22	53	8.74	.....	1.60	0	20	....	....	....	.....	Prof. L. W. Wilkinson.

[a], [b], [c], etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.
** Temperature extremes are from observed readings of the dry bulb; means are computed from observed readings.
† Also on other dates.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 2.—*Daily precipitation for September, 1913. District No. 7, Lower Mississippi Valley.*

Stations.	Watershed.	Day of month.																											Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Colorado.																																
Buena Vista	Arkansas				.10			.35	.15			.10	.15										.23						.10			1.18
Calhan	Big Sandy	.04	.03	.03					.14	.05							.19	T.					.03	.43	.06				.01			1.01
Canon City ‖	Arkansas		T.	T.					.05	.05		T.	.68			T.	.10							.06	.50				.03			1.47
Colorado Springs	Fountain	T.	.03	T.					.15	.06	.01	.29	.04		T.	T.	.01						.02	.27	.09	T.						0.97
Cripple Creek	Oil Creek	T.	.44					.12	.19	.03	.30	.15									T.		.10	.54	T.	T.			.09	.07		2.03
Cuchara Camps	Cucharas	.03			.02		.04			.03	.06	.06				.36	.16						.06	.36	T.	.72	.15					2.05
Eads	Big Sandy									.25						.80												T.		.25		1.30
Fairview	St. Charles									.51	.20	.64					.29							.85	.24			.19		.21		3.13
Fremont Exp. Sta. ‖	Fountain	T.	.72	T.				.13	.20	.09	T.	.94			.14	.15	.05	.01					.04	.80	.03			.02				3.32
Garfield	Little Arkansas		.04		T.		.09	.10	.39	.06		T.				.09							.48	.32	.01	.03		.07	.11			1.79
Hamps	Big Sandy		T.		T.												.16							.15					.10			0.41
Hermit Lake	Grape Creek	.15			.19				.55		.50	.20	.16			.44							.40	.87	.12	.14					.22	3.94
Hoehne (near)	Purgatoire	T.							T.	.08	.04	.43					.38							.08	T.	.25	.40					1.66
Holly	Arkansas																															
La Junta	do										T.						.36						T.	T.	.08		.10					0.54
Lake Moraine	Fountain		T.	.18					.58	.63	.04	.52	.33		T.	.37	T.						T.	.30	.12			.06				3.13
Lamar	Arkansas								.01	.25	.05						.71														.77	1.79
Las Animas	do																															
La Veta Pass	Cucharas									T.		.08				.18	T.								T.	.22	.42					0.90
Leadville	Arkansas	T.	.04	T.	.02	.04	.03	.68	.13	T.	.03	.05	.01	T.	.04	.03	.10						.20	T.	.02	T.	T.	T.	.03		T.	1.45
Limon (near)	Big Sandy	.11							T.	T.							.22	T.					T.	.28	T.				.18			0.79
Madrid	Purgatoire	.36	.02					.04		.02	.37	.03					.32							.11	.02	.10	.28	.05					1.72
Marshall Pass	Arkansas					.20			.30								.10							.30	.17				.16				1.23
Maxey	do										.62													.40									1.02
Monument	Fountain	.03	.06	T.	T.			.07		.05	.03	.16	.27			.02	.05						.10	.28				T.			T.	1.12
North Lake	Purgatoire			.08		.03			.08		.22				.04		.12			.14				.34	.07	.28	.51						1.91
Pueblo	Arkansas		T.					T.	.01	.33	T.	.02				.03	.09						.01	.26	.04						T.	0.79
Rocky Ford (near)	do																															
St. Elmo	Chalk Creek	.10	.02				.18	.10	.63	.08		.30				.18							.30	.23	.03			.05		.15		1.35
Salida	Arkansas							.07	.42			.18											.20									0.87
Stonewall	Purgatoire	.13		.05	.07						.45	.05				.05	.30								*		.75	.04	.10			1.99
Trinidad	do	.17	.03						T.	.11	.05	.65	.04				.57							.20	.09	.17	.31	T.					2.39
Two Buttes	Arkansas										T.	.10					.18							1.05				.14			.05	1.52
Two Buttes Resvr	do									.20		T.					.18							.75			T.	.15				1.28
Victor	Oil Creek			.51					.10	.30	.15	.03	.48		.06									.47				.05				2.15
Vilas	Cimarron																															
Westcliffe	Grape Creek	.03	T.		T.	T.		T.	.23	T.		.25	.32			.53			T.				.06	.06	T.		T.	T.	.02			1.50
Winfield	Clear Creek																															
Woodman Sanat'm	Fountain		.03	.03					.09	.14	.02	.13	.20				T.						.07	.25	.13	.04			.03			1.16
Wortman	Arkansas		.10	.20	.10	T.	T.	.50	T.	T.	.40	T.	T.	.30							T.	T.	T.	T.	.40	.30	.10	T.	T.	T.			2.40
Yoder	do	T.							.08														T.		.50							0.66
New Mexico.																																
Abbott	Canadian								.50		.50												.20	T.	T.	.28	T.				.02	1.50
Albert	do			T.					T.		.17						.38							.72	.50	.56					T.	2.33
Aurora	do				.06	.01			.06	.01	.02	.25	.01			.05	.11	.02					.05	1.13	.12	.36	.10	.03			.78	3.17
Bell Ranch	do								.07		T.						.36	.03					.06	.12	.06	.65	.12					1.47
Black Lake	do								.06			.09					.12						.04	1.11	.12	.09	.04					1.67
Cabeza	do	.05			.37				.90		.27						.30							.30	.41	.22	.40	.40					3.62
Campana	d9								.30								.25						.10	.36	*	.44						1.45
Chacon	do				.30				.25								.37						1.24	.22	.20					.34	1.08	4.00
Cimarron (near)	do			.24	.04			.24			.16	.08					.10						.19	.13		.32	.18	.03			.46	2.17
Clayton	do								.20	1.56							.10							.53		.44	.02	.12			.44	3.41
Clovis	Red								.24		.23	.60				.05								.02		.42		.01			.12	1.69
Cuervo	Canadian			T.	.15				.80	.20	.30													T.		.60						2.05
Dawson	do	T.							.05	.16	.02	T.					.30							.53	.02	.25	.20	.14	.02		T.	1.69
Elizabethtown	do										.10						.24							1.03	.30	.42	.23					2.32
Folsom	Dry Cimarron																															
Fort Union	Canadian					.26			T.	T.													.20	.20		.60	.15	.05			.25	1.95
Hayden	do	.09							T.	T.	.38						.17							.18	.16	.46		.19				1.63
Hoosier Ranch	do			.20					T.		.41						.36						.28	.30		.50	T.					2.05
Johnsons Park	do									.08	.59	.03					.24						.10	.52	.20	.22		.31			.25	2.54
Johnsons Ranch	do										.79							.46							.21	.70	.10					2.26
Kappus	do	.24			.15						.10							.40		T.				.15	.22	T.	.20		.15			1.61
Lake Alice	do																															
Logan	do	.10						T.																.90	.36		.36					1.72
Lykins (near)	Red			.77				.11	.15	.20														*	.58	.52						2.33
Maxwell (near)	Canadian							.05	.11		.68						.13				.10		.25		*	.55	.14				.30	2.31
Melrose	Red	.10		T.	.03	.06	.05	T.			.03	.57					.02	.03						.07	.37	.40	.04						1.77
Miami Ranch	Canadian											.08					.09							.51		.43	.23	.03					1.37
Mills (near)	do			T.					.57		.53						.26							.39	.17	.56	T.	.02			T.	2.50
Montoya	do			.08							.05															.03		.63				0.79
Nara Visa	do																															
Palo Verde	do		T.	.08					.15		.57						.47							.42	.24	.43	T.	.03			T.	2.39
Pasamonte	do									.60	.79												.18	.61		.18						2.45
Pleasant View	do											.20												.20	.10	.75	.14					1.39
Portales	Red			.52					.18																T.	.60	.15	.30					1.75
Raton	Canadian	.10	.07						.02	.23	.04					.01	.12							.24	.22	.35	.09		.14			1.63
Rociado	do					T.	T.	T.	T.	.90	.20	.20							T.	T.				.20	.37	.85	.05				.50	3.27
Rosebud	do										.12													.37	.60	.11	.40				.15	1.75
Roy	do			.40							.70						.60							.22	.32	.21	.22	.07					2.84
Roy (near)	do																															
St. Vrain (near)	Red										.70																.87					1.57
San Jon	Canadian				.05			T.		.02	.05							.23						.08	.02	.31	.05	.33	T.			1.14
Solano	do								.22	.34	1.03	.02					.40							.57	.22	.62	.09	.02					3.53
Springer	do									.30	.02													.05	.30	.45	.10				.05	1.27
Taylor	do									.20	.60						.12							.50	.10	.50						2.02
Texico (near)	Red		.10								.43															.40	.40	.50					1.83
Trementina	do								.20		T.	.15					.18						.37	T.	.78	T.						1.68
Tucumcari	do							.04				.01					.09							.06		.65	.21	T.					1.06
Tucumcari (near)	do											.18					.30							.18	.25	.30	.22	.15					1.58
Valley	Dry Cimarron																															
Vance (near)	Canadian										.35						.06							.15	.42	.17	.01	.10			T.	1.26
Vermejo Park	do			.12					T.		.38	.08		T.	T.	T.	.12								.28	.18	.15						1.31
Wagon Mound (near)	do			.02					.01			.10	.20	.13			.29	.01						.34	.17	.45	.01	.18	.01			.66	2.58
Texas.																																
Amarillo	Canadian		T.		T.		T.	T.	.35		.77	.68					.39							.18	.03	.60	.28	.90	.01			4.19
Archer City	Red						T.		T.	T.	.02	T.	.84					T.								2.83	.03	.34					4.06
Arthur City ‖	do						.60	T.	T.	T.	T.	2.12	.27	4.20	4.32	.86	T.	T.	.40		T.					T.	1.28	T.	.09			14.14
Bonham	do					.15		.34	.60		.24		1.17	2.40	1.53			1.04			1.04					1.73		.13					10.37

TABLE 2.—*Daily precipitation for September, 1913. District No. 7*—Continued.

Stations.	Watershed.	Day of month.																												Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Texas—Continued.																																
Canadian	Canadian							.05				.59					.65							.01	.16	.57		1.55				3.58
Childress	Red	.30		.90		.12				3.04		.50													2.00	.70	.20	1.00				8.76
Chillicothe	do		.14	.40					.14	.26	.01	.08	.58					.20								1.42	.44	.04	.13			3.84
Clarendon ‖	do	.04							.21			.48	.10					.23							.11	.03	.81	.50	.55			3.06
Clarksville	do									1.03		.30		3.70	3.52		.35	.98									.48	.17				10.53
Claude	do							.75									1.35							.25		1.15	.80	.65				4.95
Dalhart ‖	Canadian	.09							T.			.10						.17						.05	.52	T.	.04	.38	.19			1.54
Denison ‖	Red							.10	.20		.22		.15	.60	1.30	.40	.10	.20			.80					.80	.30	.10				5.27
Finley ‖	do									1.00	1.00			2.25	2.25	.20			.53		.23	1.00									8.46
Henrietta ‖	do									.23	.24	.03	.20	.05				.23								2.45	.46	.04	.20			4.13
Jefferson ‖	do						.25					1.00		2.50	3.70	.10				.31							1.00	2.00	.40			11.26
Memphis	do																															
Miami	Canadian	.02							T.	T.	.37	.34					T.	.56						T.	.11		.30	1.50				3.20
Ochiltree	do											.76					.19								.86		.03	1.03	.03			2.90
Paducah	Red							.13	.18	.21		.86					T.							T.	.36	.67	.74	.50				3.65
Panhandle	Canadian																															
Paris ‖	Red						T.	.02	T.		T.	1.80	.77	2.63	3.95	.31	.01	.01	.20		.03					.55	.26	.08	.10			10.72
Plemons	Canadian	.07		T.	.06				.46		.61	.66	.02				.11	.02						T.	.92	.11	.07	1.18				4.29
Quanah ‖	Red		T.						.15	T.	T.	.65	1.35					.18							T.	1.70	.45	.25	.35			5.08
Ringo Crossing ‖	do										.10	.55		1.60	4.00	.27					.32					.20	.12				7.16
Romero	Canadian					.32		T.			T.	T.		T.	T.		.30						T.	.40	.10	.35	T.					1.53
Sherman ‖	Red						T.	.20	.40	T.	T.	T.	1.26	.18	2.19	.46		.20	T.		.34					1.10	.30	T.	T.			6.63
Stratford	Canadian	.09							.23		T.	.60					.12							.50	.57		.05	.62				2.78
Tulia	Red	T.			.09		T.		.81	.11	2.80	T.					.32							.15	.21	.85	.61	.58				6.53
Wellington	do	.24		.03				.46	.05	2.25		.43	.53												1.73	.57		.72				7.01
Wichita Falls	do									.40	1.10	.45														2.90	.45	.35				5.65
Winfield	do							T.	T.	.25	.99	T.	*	*	*	10.44				.20					.15	T.		.63				12.66
Kansas.																																
Alden	Arkansas							T.	T.	.05	.01	.06					.05	.20							1.75				.73			2.85
Anthony	do	.14	T.				T.		.08	.05	.08	3.99						.14						T.	.95			1.25	.51			7.19
Ashland	Cimarron		.01						.25	1.15		1.62				.01	.10	.51	.02	T.				T.	1.01	.03		.63	.03	.07	.01	5.45
Burlington	Neosho								.64	.13		1.84														.84			.50			3.95
Chanute	do								.25	.45	.19	2.34	.24			.28	T.									.43		.14	T.			4.32
Cimarron	Cimarron	T.						.10	.05	.70		.30					.68	.98	T.						.87			.83	.02			4.53
Coldwater	do		.39					.11	T.	.94	.09	2.74					.06	.16	.05	T.				T.	1.78	T.		.63	.04	.48		7.47
Columbus	Neosho							T.	2.27	.41	.09	1.79	.91		T.	.15	.08		T.	.90				T.		.07		T.	.31			6.98
Coolidge	Arkansas								.10								.84								1.23			.60				2.77
Cottonwood Falls	Neosho								.07	.22	.01	.26					.03	.14	.03							T.	1.10			.30	.01		2.17
Council Grove	do								.22	.92	.28	1.37					.12				.87				.54	.57			.31			5.20
Cunningham	Arkansas								T.	.50	.60	1.35					T.	.20							1.35			T.	.63	.15		4.78
Dodge City	do							T.	.78	.58	.02	.16					1.13	.78		T.				.79	.49			.66	.01			5.40
El Dorado	do									.19	.08	1.18						.15							.67	.94			.47	.08		3.76
Ellinwood	do	T.	T.						T.	T.	1.70	.04					.16	.93		T.					1.80	T.		T.	.45	.10		5.18
Emporia ‖	Neosho									.30	.01	1.35	.20				.05	.05	.04							1.01			.38	.02		3.41
Eureka	Verdigris								1.15		.07	2.45				T.		.40								1.25			.45	.20		5.97
Fall River	do								.01	.15	T.	1.50	.02			T.		T.	T.						T.	1.15			.50			3.33
Fargo	Cimarron							T.	.10	.90		.11					.30	.02							.52			.96				2.91
Fredonia	Verdigris					T.			.23	.21	T.	2.19	.17			.07	.02	.02						T.		.25			.29	.01		3.46
Garden City	Arkansas		.05					T.	T.	.52	1.10	.25					.57	.24		T.			T.	T.	1.56			.92	T.			5.21
Greensburg	do		.08						.03	.12	.10	.62					.50	.77							1.58		T.	.53	.14			4.47
Grenola	Verdigris								.08	.04	.04	1.14				T.	T.	.37						T.	T.	1.16			.46			3.29
Howard	do								T.	.14	.21	1.44	T.			T.		T.							T.	1.06		T.	.36			3.21
Hugoton	Cimarron	.12						T.	T.	.14	.90	.05					.20							36	.38			1.30	.03			3.48
Hutchinson	Arkansas									.36	.76	1.02					.15								1.50			1.25				5.04
Independence	Verdigris					T.			.80	.01	.55	1.92	.48			.02	.01	T.		.15				T.	T.	.25		T.	.24			4.43
Iola	Neosho								.06	.50	.02	2.03	.04			.06	.02	T.		.03				T.	.09	.05		T.	.21	.01		3.12
Irene	Arkansas																.70				T.		.74	.30		T.	.40					2.14
Jetmore	do																															
Kingman	do	T.								.47	.06	.45				T.		.06		T.					.95	.03		T.	1.04	.19		3.25
La Crosse	do									.19	.36	.06					.33	1.22							1.61				.63			4.40
Lakin	do								.04			.42					.58							.93	.02			.65				2.64
Larned	do		.08					T.	T.	T.	.21	T.					.20	1.45							1.54			.44	.12			4.04
Lebo	Neosho								.20	T.	.68	.14				.04	T.	T.		T.				T.	.50	.43		T.	.49			2.48
Le Roy ‖	do								T.	.50	.26	.02	.85				.06	.02	.06		T.				.01	.49	T.		.47			2.74
Liberal	Cimarron							.14	.44	.05	.07	.31					.16							T.	1.16	.02	T.	1.08	.03			3.46
Macksville ‖	Arkansas			.04						.23	.12	.03	.10					2.40							.69	.93			.52			5.06
McPherson ‖	do									.14	.25	1.02	2.26					.39	.04						.18	1.42			1.36	.03		7.09
Madison	Verdigris								.43		T.	.55					T.	.17	T.					T.	1.20				.41	T.		2.76
Marion	Neosho								T.	.36		1.51				T.	T.	.15		T.					1.10	.45		T.	1.28	T.		4.85
Medicine Lodge	Arkansas	T.							.05	1.20	.10	1.55					T.	.16						T.	1.37	.03		.61		.22		5.29
Minneola	Cimarron									2.41		.67					.45	.70							1.53			.61	.02			6.39
Mount Hope	Arkansas	T.								.22	.34	.16					T.	.20							.86			1.25		.08		3.11
Neosho Rapids ‖	Neosho									.40		.08	.40				.05	.08								1.22			.52			2.75
Ness City	Arkansas										.20					.38	2.37							1.65				.62				5.22
Newton	do	.0								.04	.15	.53						.15							.94	.41	T.		1.00	.05		3.30
Norwich	do	.0								.55	.01	.08	.98				.27	.18							.97	.08		.04	1.44	.38		5.03
Oswego	Neosho								2.25	.48	1.00	1.07	.88			.17	.07			.73						.15			.25			7.05
Pittsburg	do								.28	.50		.14	.42			.12	.12			.80						.04	.02		.25	.01		2.70
Plains	Cimarron							T.	T.	.12		.72					.50	T.							1.08			.90	T.			3.32
Pratt	Arkansas								.05	.03	.20	1.75				.02	.22							1.80				.28	.12			4.47
Richfield	Cimarron	T.	T.					T.	T.		T.	.22					.28							1.20	.62	T.		.64				2.96
Rome	Arkansas									.21	.06	1.95	.06					.60							.66	.81		.05	.63	.37		5.40
Santa Fe	Cimarron																															
Sedan ‖	Verdigris									1.27	.05	T.	2.50	T.			T.	T.								.80			.25			4.87
Toronto	do									.20		.53				.05										.86			.43			2.07
Ulysses	Cimarron									T.	T.	.26					.49							1.25			1.10					3.10
Walnut	Neosho								.85	.35	.59	.61	T.			T.	T.	T.											.26			2.66
Wellington	Arkansas									.30	T.	.92	.06					.52	T.					T.	.68	.74		.04	.54	.32		4.12
Wichita	do								.05	T.	.57	.40				.01	.20	.12		T.				T.	1.15			.82	.20			3.52
Winfield	do										.37	1.68						.53		T.			T.			2.05		.50	.20			5.33
Yates Center	Verdigris								.27	.06	T.	.44			.04	T.	T.		T.				T.		.69		T.	.39				1.89
Oklahoma.																																
Ada	Canadian							.12	.03	.14	.04		.68	.46	.05	.25		.12	.02								1.45	.32		.05			3.73
Altus	Red		.66							.03	.20	.52	.19					.29							.05	1.26	.40	T.	.42			4.02
Alva	Arkansas	T.	T.						.45	.17	.91	1.45						.45			T.				.05	.55	.16		.71	.84		5.74
Apache	Red		.02	.02			.03	.01				1.71	.23		.05	.05		.35							.15	2.72	.10	.19	.07			5.70
Arapaho	Washita	.48	.21						1.37	.89	.03	.04					T.	.57						T.	1.15	T.	.07	.72	.07			5.60
Ardmore	Red							.17		.04		.17	1.00	.40	.08	.15		.63			.25					1.67	.22	.02	.11			4.91
Bartlesville	Arkansas								T.	2.30	.54	.41	2.41	.01			T.	.01			.57					.62	.02		.18			7.07
Beaver	Canadian									1.05	.07	.45	.15					.14	T.						.43	.21	.02	.03	1.28	0.4		3.87

TABLE 2.—*Daily precipitation for September, 1913. District No. 7*—Continued.

Stations.	Watershed.	Day of month. 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	Total.
Oklahoma—Contd.																																
Buffalo	Cimarron								.55	.27		1.38					.04	.18							1.10		.05	.69		.57		4.83
Cache	Red											3.00	.10					.50								2.50		.40	.30			6.80
Calvin	Canadian								.12	.22	.10	.18	2.40	.60	.15	.60		.02			.22					.96	.40		.15			6.12
Chandler	do								.52		1.25	T.	.15	T.			T.	T.						T.		1.50	.30		.15	T.		3.87
Chattanooga	Red									.11		.74	.10					.62								3.20		.24	.05			5.06
Chickasha	Washita		T.				T.	.21	.14	T.		2.80	T.					.42								3.30	.09		.14			7.10
Cleveland	Arkansas				T.			.44	T.		.71	.91			T.	T.	T.	.06		T.						1.05		T.	.14			3.31
Cloud Chief	Washita	.14	1.10	T.			T.		T.	.05	.56	.12						.74				T.		T.	T.	.90	.05	.43	.29			4.38
Crawford	Canadian																															
Durant	Red						T.	.32	.97	.08	.05	.08	.30	1.11	1.10	.42	.02	.12	.20		.48					.98	.34	.02	.16	T.		6.75
Eldorado	do									.42		.48							.20						.65	.31	.49	.33				2.88
El Reno	Canadian								.49		.45	1.50	.30					.35							1.93		.15		.27			5.44
Enid	Cimarron		T.							.18	.52	5.50						.80			.01					1.45			1.26			9.72
Erick	Red	T.	.11					.08	.42	.30	1.20	.15					1.66							T.	1.06	.06	.16	1.20	.01			6.41
Eufaula	Canadian					T.			.22	.96	T.	T.	1.37	.07	.38	.04			.68							.72	.15					4.59
Fairland	Arkansas								.30	T.	.23	.21	1.12			.25	.06				.54					.06	.11	T.	.28			3.16
Fort Gibson	do				.10				T.	.65	.42	.11	.88	.22		.55	.06	.07	T.		1.05					.12	.19	T.	.14			4.56
Frederick	Red		.11						.40	.24		1.04						.12						.92	1.25	.22	.14					4.44
Geary	Canadian	T.	T.						.19	.11	.08	1.32	.04	.01		T.		.38						T.	1.08	.49	.01	.72	.55			4.98
Goodwell	do	.70							.09		.14	.23					.13							.20	.96	.05		1.10	.03			3.63
Guthrie	Cimarron						.08	.60	.15				1.25					.15								2.00	T.		.25			4.48
Guymon	Canadian										.25	.38					.50							1.50	1.00	.25	.30	.90	.25			5.33
Hammon	Washita	T.	.04					T.		.07	.26	.13	.29					.50	T.						.01	.82	.27	.01	.70			3.10
Hartshorne	Canadian								1.00	.55			3.50	.40	1.40											.70	T.	T.				7.55
Healdton	Red						T.		T.		T.		.25		T.			.53		T.					1.85	.15		.15			2.93
Heavener	Arkansas						T.		.72	.51	.39	.01	.52	.57	1.13	.09		.07			.45				1.25	.17	.04	.08	T.		6.00
Helena	Cimarron	.10							1.00	.25	1.10	.65					.50								1.45		1.50				6.55
Hennessey	do						.10		.40	T.	.07	3.20					.61							1.60		.42	.45				6.85
Hobart	Red	.28	.81	.01					.89	.07	.09	.37						.64						.03	.76	.34	.19	.85	.07			5.40
Holdenville	Canadian								.07	1.94	.46	.08	2.66	.31	.05	.75	.05	.05			.07					1.19	.42	.03	.09			8.22
Hooker	do						.09	.04	.46		.06						.12							T.	.95	T.		1.14	.03			2.89
Hugo	Red									1.92	.53	2.33	4.60	.35			.24			.03					1.01	.11	.01	.14				11.27
Hurley	Cimarron										T.						.29							.60	.51		.10	.10				1.60
Idabel	Red																							T.	2.54	.55		1.15				8.59
Jefferson	Arkansas	.05							.42		.10	3.22	.09					.47						.11	.41	.30	.17	.20	.02		.02	1.49
Kenton	Cimarron							T.	.05	T.	.08	.04					.09								1.67				.60			6.79
Kingfisher	do	T.					.01	.52	.42	T.	.12	3.06						.33		.06					2.95	.11		.35				8.56
Lawton	Red							.08	.60		.22	3.73			.02		.50									3.43	.08	.29	.21			6.58
Lawtonka Lake	do						.10	.26	.46	.14		.87	.20			.06		.48								.91	.54	.04	.07	.01		11.66
McAlester	Canadian	.01								1.99	1.49	.04	1.01	3.88	.71	.75	.02	.08						.11			.54	.04	.07	.01		4.51
Mangum	Red		.50						.03	.10	1.00	.30	.28					.25							T.	1.32	.20	T.	.53			5.22
Marlow	Washita								.25	.38	.10		1.00	.10		T.		1.00								2.00	.32		.07			7.22
Meeker	Canadian								2.90				.75		T.	.95	.35										1.77		.50			5.54
Muskogee (1)	Arkansas							.33	.64	.44	.03	.14	1.34		.41	.28	.05				1.52					.20	.03		.13			5.75
Muskogee (2)	do						T.	T.	T.	.50		.65	1.10	1.26	T.	.45	.37	.15	T.		1.00					.20	.07	T.	T.			11.50
Mutual	Canadian										3.00	4.95						.85							2.00		.70				4.90
Neola	Washita		.10	.20			.05		T.	.03	.92	1.18	.13					.23								1.43	.12		.51			6.41
Newkirk	Arkansas									.40	.06	2.05						1.15								2.20		.55				6.16
Norman	Canadian							.03	.56	.28	.02	1.28	.35		.10	T.	T.	.30	T.	.23					.01	2.85	T.	.01	.14			4.23
North Muskogee	Arkansas						T.		.04	.26	.20	T.	1.83	.32		.56	.05	T.			.44					.14	.23	T.	.16	T.		4.92
Oakwood	Canadian	1.22							.50	T.	.54	.33	.02											T.	1.33	.30	.02	.52	.14			6.42
Okeene	Cimarron	.42	.03	T.				T.	.92	.06	.06	1.37	.04			T.	T.	1.10						T.	.92	.30	.02	.53	.65			4.47
Okemah	Canadian								.52	.20	.10		1.95		.40											1.00	.30					4.80
Oklahoma	do						T.	.14	.05			.69	.35		.05	T.		.17		.07				T.	1.60	.44	.06	.17	.01			3.12
Okmulgee	do								.85		T.	.25	1.25	T.	.26	T.	T.				.41							.10				7.89
Pauls Valley	Washita					T.		.04	3.12	T	.60	.44	.91		T.	.09		.37		T.	.20					1.84	.13	.04	.11			6.02
Pawhuska	Arkansas								1.14	1.36	.21	.89	.37							.73						.96		T.	.36			4.16
Perry	do								.29	.03	.25	.45	.26		T.	T.	T.	.56							2.00	T.	.32					5.43
Rankin	Red		.02						.22	.25	.24	T.	1.38				.58							.02	.97	.10	.40	1.25				8.63
Ravia	Washita							.32	.57	.18	.06		3.40	.05	.47	.07		.89			.78					1.65	.08		.11			5.84
Sac and Fox Agency	Canadian								2.05			.02	2.00	.23				.08								1.25	.08	.03	.10			4.65
Shawnee	do								.36	.65		.02	1.30	.06		.16	T.	.12								1.58	.28		.12			4.92
Snyder	Red		.25						1.65		1.60	1.86						.70								2.25	.52	.12			.12	9.07
Stillwater	Cimarron						T.		.59	.60	.02		.66				T.	.13			T.				T.	3.90			.23			6.13
Tahlequah	Arkansas						.03		.01	.44	.53	1.08	.01	.22	.06	.07	.01	.02	T.		.54					.13	.36	.01	.17			3.69
Tulsa	do									.13	.10	.02	1.45	.13		.04	.06	.07			.53					.60	.14		.14	.03		3.44
Vinita	do																															
Wagoner	do								.27	.58			5.04		.29	.32				.55						.63						7.68
Waukomis	Cimarron	T.					.03	T.	.06	.03	T.	2.70	.23					1.30						T.	.35	.85	T.	.42	.48			6.45
Waurika	Red						T.		.04	.21	T.	.22	.56		T.			.09								2.00	.06	.08	T.			3.26
Weatherford	Canadian		.37	T.				T.	T.	.49	.20	1.11	.67					.38							.07	.85	.06	T.	.57			4.77
Webbers Falls	Arkansas						T.	.50	1.40			.35	1.25	T.	.35					1.45						.35		T.				5.65
Whiteagle	do								.20	.66	.16	1.11	.32					.74							.42	1.42		T.	.41			5.44
Woodward	Canadian		.20					.04	.93	.18	.30	.35					.64	.16			T.			.05	.60	.53		.78	.13			4.89
Wyandotte	Arkansas								.65		.25		1.30			.10					1.30						.20		.20			4.00
Missouri.																																
Belle	Meramec									.18	.21	1.62	.06	2.31			.70	.63	.70	.68		.30					.30		.62			8.34
Birchtree	Black																															
Cape Girardeau	Mississippi																															
Cardwell	do							.12				1.82		.32	.11	.42	1.96	.16		T.		.15					T.	.07	.15			5.28
Caruthersville	do							.10	T.		T.	.52		.28	.08	.35	.26	.72	T.	T.							T.	T.	1.08			3.39
Cassville	White									T.	1.09	.48	1.27	.35	.37		.50	.35	.09	T.						.35	.10		.30			5.25
Dean	Neosho								.13	.76		1.58	.66			.16	.45				.60					.19	.23		.38			5.14
Doniphan	Black						.12	T.			.55	.05	2.86	.11	.20	.90	.27		1.50		.22						.20		.67			7.65
Fruit City	do					T.	T.		T.	T.	T.		66	3.05		4.08	.61	.47		1.05	.05	.15					.25		.45			10.82
Gano	Meramec									.55	T.	T.	.14	3.12			.65	.54	.41	.50		.68				.40	.54		.25			7.78
Goodland	Black									.25				2.80			.26	.88	.03	.13		.26							.20			4.81
Hollister	White								.20		.30	.10	.50	1.90		.10	.75		.92			.50				.65	.25		.50			6.67
Ironton	Mississippi								T.	T.	.07	T.		.50	1.67		.15	.65	.11	.70	.30	.30	T.				.40		T.	.45		5.30
Jackson	do								T.				3.72			.23	.21		1.25	.60			.12				.06		.50			6.69
Joplin	Neosho								.15	.60		.45	.10				.15	T.	T.			.35				T.		.40		T.		2.20
Koshkonong	Black					T.			T.	T.	.45	.45	2.00	.04	.22	1.00	.16	.22	1.30			.35					.33	T.	.60			7.12
Lamar	Neosho									.13	.09	.32	.26	.71	.07		.18	.04	T.	.18		.25					.06		.62	T.		2.91
Marble Hill	Mississippi												3.60			.03	.20			.75							.20		.35			5.13
Mountaingrove	White								.08	.18	.50		.18	1.62	T.	T.	.64	.15	.53	T.		.61				.42	.70	T.	.32			5.93
Mount Vernon	Neosho										.80	1.25					.37	T.	.30			.90				.34	.20	.01	.33			4.50
Neosho	do						T.			.37	1.25		.34	1.06			.51	.04	.05			.55				.09	.15	.01	.34			4.76
New Madrid	Mississippi												.15		.93		.23	.65		.02	.21	.06								.95	2.21	5.41
Oakfield	Meramec									.38			.38	1.72			.34	.37		.39		.27				.19	.65		.33	.08		5.10
Rolla	do								T.	T.		1.20	1.29				.17	.71	.40	.03		.21				.30	.37		T.			4.68
Springfield	White							T.	.01	.08	.1	.80	1.02				.35	T.	.22		.50					.48		.02	.22			3.85

TABLE 2.—*Daily precipitation for September, 1913. District No. 7*—Continued.

Stations.	Watershed.	Day of month.																												Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Kentucky.																																
Blandville	Mississippi							.04	.02		T.		.30			.45	.31	.10	.30		.12						T.		.49	.05		2.18
Tennessee.																																
Arlington	Mississippi						T.	.78		.09	.31	.58		.03	.18	.69	1.89		.07	T.	.20	T.						T.	T.	1.12	T.	5.94
Bolivar	do							T.			.28	.04			.15		2.40			.06	.04							T.	.06	.62	.08	3.73
Brownsville	do						T.		T.		.15			.02	.57	.64	.03		.03	.14	.13						.02	.03	.73		.02	2.51
Covington	do								.10		.25				.20	.30	1.10		.10		.05							T.	.05	.80		2.95
Dyersburg	do											T.		.20	.10	.90	.40	.15		T.	.35						T.	T.		.90		3.00
Jackson	do														.08	2.20	.12	T.	T.								T.		.40	.85		3.65
Kenton	do						.13				.10		.23		.30	.23	.57		.14		.26					T.			.61	.25		2.82
Memphis	do		.01			T.	.48		.26	.01	.63		.03	.17	.68	2.01			.07		.19						.04	.05	.95	.43		6.01
Milan	do							.17						.05	T.	.10	1.35	.34		T.	.05	T.						.02	T.	1.10	.04	3.22
Trenton	do					T.		T.			T.		T.		.35	.19	.79	.30	.15		.10								.37	1.45		3.70
Union City	do							.11			T.		.42		.30	.67	.08		.26		T.						.07		.90	T.		2.81
Arkansas.																																
Alicia	White		.20					.05		.10			1.90		.30						.95						.45		1.55			5.50
Amity	Ouachita						2.30		.75	.33		.72	1.75	3.20	1.50	1.12		.18			.93						.60	2.90	T.			16.28
Arkansas City	Mississippi								.45	.33				2.28	1.60	2.40	.24		.12								1.10	.46	.55	1.06	.28	10.87
Batesville	White						.06	.24	.42	1.24			.04	1.26	.12	1.22	1.02		.46		.36						.64	.22	1.22	.88		9.40
Bee Branch	Arkansas							.10	.10	.50	.10		.45	.35	.55	2.00	.10		.50		.65						1.10	.10	1.70			8.30
Bentonville	do					T.			.30	.11	.12	.64	.46		T.	.20	.03	T.		.88						.64	.12	.22	.24			3.96
Bergman	White							.21		.15	.33		1.80		.10	.84	.62	.11	1.13		.55					1.02	.43	.05	.57			7.91
Black Rock	do							.09	.41	.19		.07	T.	2.40	.02	.77	.45		.17		.13						.30	.14	.09			5.23
Brinkley	do					.24		T.	.72	.16	.76	.14		2.44	.94	1.89	3.90	T.	.09		.12						1.83	.36	.80	.72		15.11
Calico Rock	do									T.	T.	T.	.55	.80	T.	1.20	.40		.70		.45						.55	T.	.70	T.		5.35
Camden	Ouachita			.01				.02	.46	.20	.03		.04	2.75	2.40	1.30	.07	.01			.20						2.93	.70	2.29	.02		13.43
Centerpoint	Red					T.			.70	.87	.25	.25		3.96	2.55	.07	.05	.88	T.	.50							.80	.55	T.			11.43
Clarendon	White	T.					.60	.30	.32	.15	.38	.13	.03	2.77	1.04	1.80	1.73		.10		.14						2.79	.57	.36	.94	.02	14.17
Conway	Arkansas						.41		1.50	.55	.02		.16	.70	1.52	1.49	.08		.71		.47						.56	.20	.87			9.24
Corning	White						.05	.02			2.17	T.	.55	.12	.40	.83	.72	T.	.20		.15	.01					.24	.03	1.14	.05		6.68
Dardanelle	Arkansas								.13	.31	.11		1.31	.64	.54	.85	1.28	.20	.40		.60						.70	.20	2.69			9.96
Dodd City	White							.15		.40	.45	1.60	1.50		.20	.60			1.42		.66					*	1.51		.67			9.16
Dumas	Arkansas							.30	.40	T.				3.70	2.75	.05		T.			T.					2.40	1.10	1.50	2.00			14.20
Dutton	White								T.	1.38	.15	1.70	1.90		.69	.23	.25	4.00								1.12	.47		.87			12.76
Eldorado	Ouachita					T.			.27		.10		.10	4.00	2.20	.70	.10				.30						4.00	2.15	3.20	.72		17.84
England	Arkansas						.50	2.65	1.35	.75	.30	T.	.20	1.20	1.90	1.55	.05	T.	.15		.44					1.55	.62	.78	.53			14.52
Eureka Springs	White								.27	1.37	.12	.22	1.19		T.	.62	.16	.21	.10		.68					.57	.41		.47			6.39
Fayetteville	do								.19		.23		1.46		.07	.06	.06	.01			.57					.38	.31	.04	.40			3.78
Fordyce	Ouachita							.40		1.10		.60		3.04	2.30	.50					.90						4.00	1.10	1.60			15.54
Fort Smith	Arkansas					T.			.16	.29	T.	.11	.62	.30	.44	.09	.22	.10		1.30						.97	.05	.16	.18			4.99
Fulton	Red							.26		T.	.60	.60	.18	2.00	*	3.50			.14		.16						.80	.48	1.58			10.30
Georgetown	White						.25	.15	.44	.23	.04	.46		1.50	.75	2.55	.75	T.	1.24		.13						1.09	.13	1.09	.33		11.13
Hardy	do		.15				.06	.36	.01	.06	.54	.01	2.50		.35	.73	.09		.35		.03						.75	.03	.65			6.67
Helena	Mississippi						.01	.01		.01	.10			.50	.90	.90	1.00		.02		.02							.02	.15	1.75		5.39
Hot Springs	Ouachita						.70	.60	.60		T.	.02		2.80	2.00	T.	.75	1.60		.65									2.00			11.72
Huttig	do					.22				.15		.83	.42	3.66	2.61	.22	.03	.07			.14						2.39	1.87	1.40	.10		14.11
Jonesboro	White						.40	.10			.90		.20	.20	.40	1.10	.10										.60		1.00	T.		5.00
Junction	Ouachita		T.				.67		.25	T.	T.		*	*	3.38	T.	T.				.29						*	*	5.65			10.24
Lake Farm	Arkansas								.50		.15		1.10	.95	1.05											1.30	1.12	1.40	.25		7.82
Lewisville	Red					T.	T.	.06			.50	.40	1.05	2.15	2.01			.15	.26		.15					2.01	1.10	.61			11.05
Little Rock	Arkansas						.11	.02	1.11	.01	.12	.04	.57	1.48	1.32	.83		.21	.26	T.	.50					.17	.54	.59	1.37			9.25
Lutherville	do		T.				T.		.30	.25	T.	.20	.73	.26	.50	.95	.19	.04	.50		1.00					.11	.59	.04	1.34			7.00
Malvern	Ouachita							2.90	1.85	.20	.25		.97	2.10	2.90	1.65	.17	.20	.70		.61						.55	.40	1.30	T.		16.75
Mammoth Spring	White							.01		.63		.03	1.18		.28	.78		.71	.90		.33						.30		.56	.06		5.77
Marked Tree	St. Francis																															
Mena	Ouachita						T.		.42	.33	.95	.03	.37	2.25	1.85	.35	.38	.09			1.12					.61	.67	.19	.26			9.87
Newport	White					.05		*	2.10	.18		.55		2.05	*	1.07	.71		.65		.40						*	.60	*	1.47			9.83
Pine Bluff	Arkansas					.28			.42	.62	.32	T.	1.42	1.90	2.85	2.05			.17		.27						2.40	1.10	.98	.66			15.44
Pocahontas	White						.04	.03		.23			.90	.05	.36	.96	.12		.17		.10						.45		1.40				4.81
Pond	Arkansas																															
Portland	Ouachita									.15	T.			2.05	1.10	1.24			.11		.19						.72	.58	.29	1.00	.19	7.62
Prescott	do							.92			.27	.42	.09	2.10	3.52	1.76	.04		.20		.50						.73	.53	1.80			12.88
Rogers	Arkansas								.28	.24	.48	.03	1.22		T.	.20	.06	.03			.55					.31	.45		.42			4.27
Springbank	Red			T.			T.	1.44	.04	.55	.18	.21	.27	2.23	5.00	.31	.01	T.	.01		.45						2.26	1.50	1.49	T.			15.95
Stuttgart	Arkansas				T.		T.	.18	.08	.02	.80	.17	.70	3.22	1.16	1.12		.04	T.		.24						2.32	1.10	1.29	.10			12.54
Sublaco	do							T.	.26	.35	.46	.39	.71	.43	.86	.63	.13	.61			.56					.52	.31	.44					6.66
Swaln	White							T.	.20	.33	.15	T.	2.41		.43	.61	.40	T.	.35		.56					1.59	.63	.11	1.50				9.27
Texarkana	Red						.03	.75	.03	.20	T.	.17	.40	2.30	3.65	.20		T.	.20		.16						.80	.26	.46				9.61
Warren	Ouachita					.10			.17	.25	.18		.94	2.00	2.05	2.00			.07		.35						2.00	1.15	2.90	1.24			15.40
Whitecliffs	Red						.10				.12	.16	.29	2.16	2.00	.86		2.30			.17						.74	.10	.45				9.45
Wiggs	Ouachita		T.				.36	T.	T.	T.	.18	.19	1.12	2.11	1.74	.70	.04	.47	.92		.52					T.	.59	.76	1.84				11.54
Wynne	St. Francis						.09	2.00	1.35	.10				1.30	.30	1.04	1.44		.15		.12						2.00	.20	.04	1.29			11.42
Mississippi.																																
Anguilla	Yazoo					1.40	T.	.07	.38	.20	T.			.85	1.65	1.30	T.	.28			.10					.10	.08	.09	.20	1.00	.30		8.00
Austin	do		T.			T.	.02	.05	T	T.				.37	1.28	3.58	T.	.07	.31		.17						.08	.20	.97	1.92			9.02
Batesville	do		.60					.15			.30			.55	.56	1.22	1.80		.15									.18	.14	.54	.52		6.71
Big Creek	do																															
Canton	Big Black					.03		.77	.05					.65	.82	.40		.97	.26									.10	.11	1.36	.23		5.75
Charleston	Yazoo	T.	.08	.80			.20	.18		.08				.42	1.50	3.20		.15			.12							T.	1.40	.83			8.96
Clarksdale	do			.05			.02	.11	T.	.13	.01			.68	.98	.66	1.21		.14		.09						.02	.14	.25	.43	.02		4.92
Cleveland	do							T.	.26	.40	.22			2.38	.40	1.28	T.	.11									T.	.40	1.79	.72			
Coffeeville	do		.11	.10	.71		.68	T.	.74					1.02	1.24	.40	.61	.15			.14						.09	.05	.48	.26			6.78
Corinth	Mississippi					.10			.10	.06	.02				.02	.20	3.18		.10			T.						.04		1.20	.30		5.32
Crenshaw	Yazoo		.55						.20							1.00	.40				.15								3.20			5.50
Duck Hill	do			T.			.70		.32	.53				1.40	*	*	2.48	1.79			.10						T.	T.	.70	.71			8.73
Edwards	Big Black			.35				.70	.02	.03	.37	.10	.06	.90	1.30	.36		1.18	.18									T.	.10	.24	2.20	1.86		9.95
Fayette	Mississippi	.05	T.	T.		.44		.51	T.	.44		.19	.25	.55	.38	.49		.36	.08									.25	.19	.07	1.23	4.64		10.12
Greenville	Yazoo		.09				T.	.02	.23	.02	.01	1.31		1.21	.99	3.48	.05		.10		.24						.74	.22	.11	1.63	.50		10.95
Greenwood	do	.18		T.	.11					1.41	.10	.03		.26	1.00	.88	.12		.10			T.						T.	.02	1.00	.21		5.42
Grenada	do			.80		.20			.10				.20		.90	.90		.20	.10		.20						.10	.80	.20				4.70
Hernando	do					.03	T.			.03				.03	.45	1.00	2.51		.45		.12							.12	.12	4.12	T.		8.98
Hickory Flat	do															2.15			.10									.10	1.08	.80			5.83
Holly Bluff	do					T.		.16	.12	.07		.10	.70	1.82	.52	.21	.02	T.	T.		T.						T.	T.	.52	3.01	T.		7.25
Holly Springs	do			.17			1.06	.01		1.21		.18			.06	.78	1.38	.02	.08		.07	.06						.04	.05	2.43	.24		7.84
Kosciusko	Big Black				.26	.06		.15		.12	.05	.03			1.82	1.10	.06	1.00	.36	.03									.05	.35	.74		6.18
Malone	Yazoo							.08	.23	.13		.16			.15	.85	.90		.06	.04		.16						.02	.02	1.02			3.82
Moorhead	do				T.			.58	.31		T.			1.42	.88	.72	T.	.03			.02						.02	.02	.12	.93	T.		5.05

TABLE 2.—*Daily precipitation for September, 1913. District No. 7*—Continued.

Stations.	Watershed.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Mississippi—Contd.																															
Natchez ‖	Mississippi	.33	.12	T.				.20		.24	2.37		T.	.69	.24	.59	T.	T.	.15									1.14	.21	.42	1.47	8.17
Pontotoc	Yazoo				.45	.45	.50				.40			.50	.45	.45	.18		3.30								T.		1.00	.76		8.44
Port Gibson ‖	Mississippi	T.	.62	T.	.07	.17		.06	.28		T.	1.19		1.17	1.02	1.55	.35	.20	.16									.21	.26	.02	2.38	9.71
Rosedale ‖	Yazoo							.14	.50	.77		.50		1.50	1.65	2.00	1.05		.22		20.						.60	.35	.50	1.45	.02	11.45
Shoccoe	Big Black			1.00						T.				1.20	T.	1.00		.73	.20									T.	T.	2.24	.43	6.80
Suffolk	Mississippi				.10	.32		.12	.60	.12	T.	T.	.13	.68	.21	.14		.12	T.		T.						.15	.39	.04	.67	2.22	6.01
Swan Lake ‖	Yazoo									.57				1.20	1.04	1.12		.29											.15	.78	.65	5.80
Tchula	do			T.			.27		.37	.12	T.		.65	.35	1.01	.73	T.	.11	T.		T.						T.	T.	.45	T.	T.	4.06
University	do																														
Utica	Mississippi	T.		T.		.21		1.60				.18		.12	.90	1.05	.34	*	1.42	.11						T.	T.	.08	.07	1.37	1.37	8.82
Vicksburg	do			.11		T.		.09	T.	T.	.03	T.	.05	1.93	2.12	.25	.36	.23			T.					T.	.03	.02	.47	3.04	1.26	9.99
Water Valley	Yazoo			.10		1.40	.50	T.	.15	T.	T.			.60	1.00	1.90	.10				.10					T.	T.	T.	.50	1.40		7.75
Woodville	Mississippi			T.	.02	.28			.58	.43	.05	.60	.22	1.10	.58	.02		.04	.26		.02					.20	.15	.80	.18	.60	.30	6.43
Yazoo City ‖	Yazoo						.01			.02		T.		.15	.75	1.43	.05	.10	.06									T.		.68	1.03	4.28
Louisiana.																															
Abbeville	Coast	.35	.02			.20		.10	.50	.10	.66	1.55	.82	.90	.16	.06	.04	2.75	.02		.33					.20	7.00	4.40	1.20	.28	2.38	24.02
Alexandria ‖	Red			T.	.15	.25	1.00	.10	.28	.05	.83	.43	T.	T.	.60				.85			T.					.10	2.25	2.00	1.27	.30	10.46
Amite	Coast	.25	T.	T.		.40		T.	1.80	T.	.80	T.	1.75	1.90	1.00	.90		1.20	1.00	T.			50				T.	.52	1.50	.40	.70	14.62
Angola	do		T.		T.		.20		.55	T.	.30	.65	.75	.30	.20	.10		.10			.15					1.00	1.30	.40	1.60	.60	8.20
Antioch	Red							.10	.02	.51	.35	.04	.12	3.67	1.81	.11	.02	.03			.16					3.41	2.64	3.48				16.47
Avoca Island	Coast	.02	.20		.45		.20	.20		1.30	.85	.06	.20	.90	.50		.10	.55	.35							.30	4.00	.05	.09	1.00		11.32
Baton Rouge ‖	do	.22	.05			1.58			.05	.04	.50	.11		1.27	.38	.44		.04	1.08	.42		.24				.12	1.00	.73	.05	.52		8.84
Burnside	do				.01	.25	.47			.07		1.46	1.95	.10	.22	.10	1.31	.50			.20					.63	.10	2.00			.57	9.94
Burrwood	do	.08			T.	1.08	.28	.04	.92	.12		.05	1.18	1.12	2.65	.10		T.	5.22	T.	.46					.52	.06	1.40		.26		15.54
Cades	do	.38				.84		.69	.23	.16	T.		.05	2.98	.10		.35	.53	.08		.70					2.31	1.68	4.15	.88	1.62	3.67	21.40
Calhoun	Ouachita					.27		.42		.73		.35	.10	2.00	1.95	.08		.17			.12					.50	1.95	2.78	1.11	.05		12.58
Cameron	Coast						.12		1.21	.88	.81	1.74	1.09	1.38				.98	.04		.26						6.12	1.07	1.35	.32	.03	17.40
Carrollton	do																														
Cheneyville ‖	Red			1.70		.30				.95	.70	.65	.65		.35	.45			.08								.40	5.80	1.90	1.47	4.75	20.15
Cinclare	Coast	.05			1.40					.08	.20	.30	.30	.70	1.00	.15		.05	1.25		.60					10	2.00	.45	.60	.75	.70	10.68
Clinton ‖	do		T.			.17			.10	.16	.01	.62	.50	.08	.40	.20	.25	.13		.22	T.		T.				.07	.91	.54	.02	.28	4.66
Collinston	Ouachita			T.		T.					.40		.17	.32	3.67	3.87	.03		.26			.16				T.	2.93	.95	.21	.04		13.01
Covington ‖	Coast		T.		.25	.05	T.	.08	T.	.07					.85	.94	.10		.10	2.30	.25								4.25	.18	.80	10.22
Dodson	Red					.30			.23	1.51	.12	.15	.46	1.01	2.24	T.		.44			.07					.40	2.30	4.67	.81			14.71
Donaldsonville ‖	Coast					.50		T.	T.		.40	.90	.10	1.10	1.20	.60		2.60	.35	.10		.80					.15	.65	2.00		.10	11.55
Dutchtown ‖	do				.40				T.	T.	.50	.48	1.31	.10	.30	.75	.08	.60	1.57	T.	45					1.04	.80	1.64	.68	.42	.85	11.97
Farmerville	Ouachita				.42		T.	.05		.50		.07	2.05	2.00	2.00	.10				.28						1.93	2.02	2.05	.50			13.97
Florence ‖	Coast							.30		.10		.30	1.40	2.20				.20								.70	5.70	.60	1.60	.30	3.20	16.60
Franklin ‖	do	.21	T.			.22		.16	.25	.03	1.11	.60	1.22	.65	1.38	.06	T.	.15	1.84	.60		.04				.11	6.10	.60	.05	.12	15.50
Franklinton	Pearl					.40		.20	.50					.95	.10	1.50		1.45	.27		.70						.80	1.20	.55	1.45	10.07
Grand Cane ‖	Red	.03		.12		.04	.10		.06			.68	.17	.84	2.70	.30					36	.08				.2.00	2.31	.80	.07		10.66
Grand Coteau	Coast	T.	1.75	.05		.25	.10	.95	.15	1.15	.45	.30	.01	1.11	.11	.01	.05	.03		T.						28	2.00	4.80	.90	.80	1.55	16.80
Hammond	do		.25				1.50			1.00	.30	.55	.75	1.55	.35			1.30	.30		.25							.65	.10	1.35	1.90	12.10
Houma ‖	do		.15							.60	.35		1.55	1.20	1.30			.80	1.10	1.11							1.10		.10	1.30	10.66
Jeanerette	do	.43				.42	.21	.10		.12	.47	.14		2.00	.65	.10		.11	.10		.41					.50	4.00	8.83	.33	.62	.82	20.36
Jena	Red																														
Jennings ‖	Coast		.61			.41	.08		.33	.05	.27	1.38	.08	.52	.53				.10								.97	4.30	1.10	1.89	.70	13.32
Laark	Red								.25				2.70	2.30	.70			.15	.03	.12						20	.40	.20	.30	.20		7.55
Lafayette ‖	Coast		.07	1.99		.13			.46	.53	.09	.23		.63	1.09	.02		.11	.31			.15				1.27	4.67	.90	1.03	.78	14.46
Lake Charles ‖	do		.03					.05	1.87	.09	.20	1.27	.10	1.77	.50	.60		.03	.05							2.35	2.67	2.30	2.32	1.02	17.22
Lakeside	do				.10		2.20					.20	.40	1.10				1.10	.70	.30						8.15	3.80	.10	2.00	1.20	.40	21.75
Lawrence ‖	do					.34				.50	.10	.90	.40	2.60	1.50	.40				.55		.10						.60	.10		8.09
Liberty Hill	Red						.45	.12	.05	.10	.11	T.	.14	1.75	4.06	.11	T.	.16			.59					.18	3.00	5.35	2.00	.06		18.23
Logansport ‖	Sabine						.05			.10	1.64	2.20	1.31	2.66	.29	.03	.05				.58						4.50	1.68	.85	.02	.18	16.14
Melville ‖	Red			T.		.06			T.	.15	.07	.60	.09	.30	.57	.51											.05	4.30	.45	.48	1.35	9.13
Minden ‖	do			T.		.20	T.		.80	T.	.07	.90	.50	1.05	2.47	.20	.08	.03	.04		.35	.15				2.30	1.70	1.02	.92		12.65
Monroe ‖	Ouachita					.08	.30	.04	.02		.76	T.	.53	.65	2.20	2.80	.01	.01	.25		.08	.03				1.87	2.51	.62	.13	.04		12.93
Morgan City ‖	Coast			.03		.36		.04	.17		.54	.45		.22	1.07	.09		.52	1.75			.05									9.11
Napoleonville	do	.20			1.00			1.10		.40	.25	.35	1.00	1.15	1.25		1.30	1.00			25						2.65	1.17				12.70
Newellton	Mississippi	.71						.60	.41			.10	T.	1.27	.25	.10		.35	.20							1.10	.70		.20	1.45	8.71
New Iberia	Coast	.35	T.			1.05	.12	.30	T.	.90	.15	.05	T.	3.10	.65		.28	.30			33					T.		.51	.45	3.76	T.	20.93
New Orleans (1)	Mississippi	T.		T.		.59	.01	.04	2.10	.61	.36	.16	.16	2.14	3.27		.32	.05	.29							60	2.50	7.70	.95	.80	.80	11.84
New Orleans (2)	do					.33	.26	.85	.12	2.41	.06	1.23	.67	1.77	3.81	*	.03	.27	.54							T.		.71	T.	.63	.40	13.89
New Orleans (3)	do					.95	.04	.17	2.07	.76	.17	.07	.97	1.46	3.17			.26	.09									.70	.09	.62	.13	11.70
New Orleans (5)	do					.53	.10	.55	2.18	.43	.11	.47	.20	2.65	3.81	.01	.02	.21	.63							.01		.79	.05	.23	.44	13.48
New Orleans (6)	do					.51		.11	2.00	.65	.22	.09	.20	2.15	3.20		.16	.10	.44									.84		.40	.30	11.54
New Orleans (7)	do					.04		.10	1.80	.65	.48		.15	2.08	2.70		.14	.14	.07									.75		.58	.38	9.44
New Orleans (8)	do					.96		.06	2.13	.54	.58	.34	.20	2.33	3.01	.07	.25	.03	.42									.38		.24	.47	16.56
Opelousas ‖	do			.23		.06			1.03	.17	1.16	.70	T.	.26	.76	.05			.18								.12	.45		1.25	.35	16.32
Paradis	do						.65	.45			.32	.81	1.83	.75	1.65		1.12	1.00	.40						.10	.25		.40	.85	.35	2.25	13.09
Pearl River ‖	Pearl		T.	T.	.12	.34	.02	.60	T.	.16	.04			.60	2.30	.22	T.	T.	.62	.14		.02					.22	6.08	1.09	.98	1.82	14.79
Plain Dealing	Red					.15				.87	.45	.10	.55	2.28	2.12	.12	.01	.01	.01		.32					19	5.86	1.15	.35			12.58
Rayne ‖	Coast		.20	.15		.10		.10	.10	.74	T.	.40	.12	.40	.85	T.			.15			.05			T.		2.10	6.50	1.65	1.50	1.45	7.38
Reserve ‖	do								.84		1.23	1.38	1.19	2.62	.59	.15		.72	1.52								22		2.96	.11	2.79	14.54
Richland Plantation	Red			.42		.29	1.03	.04	T.	.38	1.58	.53	.05	.26	.43	.03		2.00	.15			.03					.46	5.85	2.07	.94	2.24	14.55
Robeline ‖	do						.50		.18	.40	.15	.60	.85	.80	3.00				.47							2.56	3.96	2.05	.38			16.56
Ruston	Ouachita					.18	.03			.02	.52	.55	.38	3.30	4.05			.07			22				*	*	*	8.50				15.90
St. Francisville ‖	Mississippi		.33			.08		.15		T.	.28	.50	.03	1.43	.43	.25			.08			.45				.02	1.70	.24	.43	.73	17.82
St. Gabriel	Coast	.03							.03	.02	.02	3.00	.04	.02				1.50			30				50		2.00		.10	1.50	7.13
Schriever ‖	do			.60		T.		.40		.20	.90	T.	1.00	1.20	T.				.60			T.				.30	.65	.50	T.	.50	9.06
Shreveport	Red		.24			.09		.05	.07	T.	.32	.02	.82	3.36	2.41	.01	T.	.02			10				4.16	3.58	.96	.25			6.85
Simmesport	do		T.			.06		1.34		.40	.81	T.	.04	.40	.25	.53			.13			T.					.12	2.95	.35	.60	.45	16.46
So. University Farm	Coast						.10	.02	.10	2.10	.20	1.40	1.00	1.90	2.10	.20		.80	.80		T.							.59	.10	.15	.95	8.43
Sugartown	do							.96			.78			1.33				1.76								62	4.90	4.82	2.05	3.35	.93	12.51
Tallulah ‖	Mississippi								.32	.13		.05		1.75	1.97	2.62	.05	.08	.08	.02								.17	.06	1.87	.63	21.50
Walker ‖	Coast				.40	.65	.10	.01	.17	.21	.28	.58	.05	.35	.19		.20	.58	.05		.28					18	.12	1.60		1.59	1.15	9.80

* Precipitation included in that of the next measurement.
‡ Separate dates of falls not recorded.
‖ Precipitation for the 24 hours ending on the morning when it is measured.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 3.—*Maximum and minimum temperatures at selected stations for September, 1913. District No. 7, lower Mississippi Valley.*

Date.	Colorado.						New Mexico.				Texas.				Kansas.										Oklahoma.			
	Lamar.		Leadville.		Pueblo.		Albert.		Cimarron.		Amarillo.		Paris.§§		Dodge City.		Ellinwood.		Iola.		Liberal.		Wichita.		Ardmore.		Bartlesville.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1....	100	59	62	42	89	58	93	58	83	46	92	66	100	72	92	71	96	74	98	76	96	67	95	80	97	75	102	75
2....	98	58	64	39	87	61	93	60	81	46	92	61	99	73	92	74	98	70	99	72	96	69	95	75	99	74	101	77
3....	95	65	66	39	89	55	90	65	79	50	88	62	97	70	93	68	99	69	98	70	95	67	95	74	100	71	101	74
4....	96	60	70	38	86	56	86	60	77	46	87	60	102	70	94	67	100	66	101	66	94	63	96	74	103	68	105	72
5....	95	60	73	41	88	57	87	59	78	47	89	62	106	72	95	66	102	66	104	67	94	62	100	76	108	70	108	71
6....	96	63	69	39	88	58	88	59	78	46	91	64	101	71	97	64	103	63	99	70	96	63	100	76	107	75	102	69
7....	98	57	65	38	86	62	.....	.....	79	46	94	66	95	70	97	64	100	70	95	68	98	61	94	70	91	69	98	72
8....	90	56	64	41	82	62	92	60	75	52	84	61	93	71	92	66	90	65	90	72	86	61	82	69	92	70	81	73
9....	92	60	61	37	83	54	85	55	79	47	81	61	91	71	79	65	85	68	80	68	81	65	80	69	89	70	86	72
10....	89	63	60	36	82	53	87	55	77	50	83	60	80	72	81	66	89	62	84	67	86	61	81	67	81	70	89	71
11....	79	50	58	33	74	57	79	56	71	49	69	59	86	70	66	55	68	64	73	65	69	61	71	64	82	70	79	71
12....	77	40	63	32	73	49	84	54	70	46	67	49	78	70	74	46	76	48	73	56	73	45	70	58	70	67	71	65
13....	83	36	66	30	81	40	79	44	73	35	72	44	61	61	73	44	77	43	70	49	74	43	71	51	71	60	71	56
14....	83	42	58	35	82	44	83	46	79	39	76	47	62	56	72	45	76	42	73	49	74	43	74	52	62	55	68	55
15....	80	40	60	36	75	53	78	54	71	41	74	49	74	56	77	48	75	49	64	58	77	45	67	60	69	57	67	62
16....	71	49	49	30	66	51	70	49	62	45	74	50	72	61	64	54	72	58	73	61	72	54	75	62	78	55	75	65
17....	68	51	63	23	69	39	75	45	67	35	70	48	83	64	66	53	65	58	72	60	68	47	74	57	78	60	77	62
18....	87	43	63	33	87	39	95	46	81	36	84	50	82	58	74	49	77	56	73	58	82	46	75	59	82	58	81	58
19....	78	39	56	28	72	52	93	59	83	36	89	55	89	58	75	50	73	59	84	57	79	57	81	59	90	60	91	60
20....	80	41	60	26	66	37	75	42	71	32	69	45	72	59	65	43	66	43	64	43	70	45	64	48	62	57	67	55
21....	78	39	64	29	78	35	.....	.....	81	30	85	47	74	47	67	39	71	38	68	41	75	36	68	42	75	47	71	50
22....	83	34	51	22	78	44	85	44	70	45	89	53	81	58	84	48	80	46	78	39	92	43	79	49	83	52	81	57
23....	73	45	35	16	52	42	74	53	66	41	82	57	86	49	76	53	79	58	80	64	83	51	78	66	86	65	84	67
24....	57	42	36	17	46	37	60	47	63	40	61	45	85	60	61	42	71	49	78	61	69	47	72	51	82	66	83	67
25....	57	35	43	18	53	39	50	34	56	32	45	40	67	60	55	38	60	40	61	48	54	39	57	46	61	60	55	54
26....	64	43	48	19	54	27	48	38	46	33	51	40	70	62	65	45	68	40	67	44	62	46	64	47	58	50	67	50
27....	60	39	45	18	57	34	55	42	55	30	48	40	66	59	51	48	65	45	70	41	56	45	64	47	67	50	65	54
28....	62	38	44	26	62	42	.....	.....	68	30	75	38	72	59	57	45	65	51	69	56	64	42	64	55	72	57	70	59
29....	79	35	61	26	79	39	87	31	74	30	79	43	85	54	72	42	71	46	73	51	74	43	69	55	82	56	79	56
30....	76	36	62	29	70	41	82	47	74	38	80	50	88	55	77	50	80	52	81	47	83	47	79	55	88	58	85	55
Mns..	80.8	47.3	58.0	30.5	74.5	47.6	c79.7	c50.4	72.2	40.6	77.1	52.4	83.2	62.9	76.1	53.6	79.9	55.3	79.7	58.1	79.1	52.1	77.8	60.4	82.2	62.4	82.0	63.5

Date.	Oklahoma.														Missouri.													
	Enid.§§		McAlester.§§		Mangum.§§		Muskogee.		Oklahoma.§§		Weatherford.		Woodward.§§		Caruthersville.		Ironton.§§		Lamar.§§		Olden.		Springfield.		Blandville, Ky.		Jackson, Tenn.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1....	98	74	100	77	96	67	100	77	95	75	100	72	95	72	100	66	100	64	101	75	.....	.....	94	75	95	68	101	55
2....	98	70	102	76	97	66	100	76	96	74	96	68	93	69	101	70	100	63	101	71	.....	.....	95	73	94	67	100	66
3....	98	70	101	72	.....	69	98	74	96	72	98	68	95	66	104	71	102	63	102	71	.....	.....	95	74	97	73	103	67
4....	100	68	103	70	.....	68	102	76	97	70	101	67	98	63	104	72	103	63	105	68	.....	.....	99	75	98	78	102	68
5....	104	70	107	70	101	66	107	71	101	71	103	64	98	61	97	71	96	58	104	74	.....	.....	97	76	89	69	91	67
6....	105	76	104	72	102	66	100	72	100	73	106	64	101	59	92	72	91	63	97	73	.....	.....	86	70	91	68	93	70
7....	98	68	97	69	102	68	99	75	93	72	97	67	98	62	91	71	90	63	95	72	.....	.....	85	69	86	73	.....	.....
8....	85	71	87	72	85	67	83	72	81	69	88	67	86	64	97	71	91	65	92	72	.....	.....	85	68	91	69	90	70
9....	86	68	87	69	91	67	85	68	84	69	87	67	82	64	93	74	87	65	82	69	.....	.....	82	68	87	67	95	70
10....	87	68	89	70	85	67	88	70	82	70	86	67	86	66	94	70	94	57	88	69	.....	.....	85	69	91	65	98	68
11....	76	68	85	70	76	67	84	72	79	66	70	67	74	64	88	68	89	62	79	70	.....	.....	80	66	87	66	91	67
12....	72	59	70	70	76	63	68	68	70	60	72	62	73	52	84	65	68	58	69	61	.....	.....	67	58	78	61	90	58
13....	72	52	65	60	76	50	70	58	71	52	74	50	71	43	73	60	69	52	72	50	.....	.....	65	53	71	55	88	56
14....	73	50	61	55	77	47	65	58	67	50	73	48	73	39	66	56	71	52	78	52	.....	.....	72	53	64	57	.....	.....
15....	68	60	69	56	74	55	72	58	66	60	69	48	72	44	74	62	67	58	68	57	.....	.....	66	59	71	59	75	56
16....	81	60	78	61	85	55	75	65	74	63	82	59	76	51	77	65	75	65	75	59	.....	.....	72	63	74	65	80	66
17....	72	58	79	63	75	54	75	65	72	58	73	56	70	51	81	67	81	65	78	62	.....	.....	72	62	78	68	76	69
18....	78	57	83	59	85	55	80	56	75	57	81	55	79	50	83	64	72	62	78	59	.....	.....	73	61	75	63	78	64
19....	71	58	88	58	93	55	88	60	90	62	89	57	81	53	84	61	75	58	84	58	.....	.....	79	57	75	60	83	57
20....	71	51	71	57	87	55	68	55	68	52	72	48	68	43	75	58	60	55	64	50	.....	.....	57	47	69	54	.....	.....
21....	70	40	73	46	81	47	70	44	70	45	77	43	72	35	70	44	62	43	68	43	.....	.....	61	41	60	47	76	44
22....	84	48	80	47	90	43	80	49	82	53	88	44	86	40	78	40	72	34	79	40	.....	.....	73	45	69	43	78	46
23....	76	50	83	48	85	50	83	64	83	65	77	50	79	44	82	50	78	44	83	42	.....	.....	79	57	78	51	79	48
24....	80	62	84	65	76	65	80	64	79	55	79	65	62	56	85	53	82	55	82	61	.....	.....	78	57	79	54	80	47
25....	66	40	65	61	53	50	65	62	55	50	56	49	57	46	84	52	78	54	57	56	.....	.....	63	48	79	55	81	50
26....	63	48	57	53	59	47	61	52	61	47	62	47	62	45	75	55	58	48	67	46	.....	.....	58	47	71	55	72	61
27....	60	48	66	53	54	45	65	56	60	55	58	47	56	46	74	54	66	48	67	43	.....	.....	63	49	68	53	71	55
28....	65	51	74	55	75	45	70	56	69	55	73	57	72	43	68	62	68	52	66	51	.....	.....	65	54	68	62	.....	.....
29....	75	53	83	53	78	50	81	55	75	54	77	50	76	45	85	62	78	56	78	55	.....	.....	76	56	77	65	80	64
30....	79	53	88	55	87	59	85	58	85	56	88	50	85	45	91	62	78	50	84	50	.....	.....	76	53	80	65	86	60
Mns..	80.4	59.2	82.6	62.1	82.2	57.6	81.6	63.5	79.2	61.0	81.7	57.4	79.2	52.7	85.0	62.3	80.0	56.5	81.4	59.3	.....	.....	76.6	60.1	79.7	61.8	d85.9	d60.3

TABLE 3.—*Maximum and minimum temperatures at selected stations for September, 1913. District No. 7*—Continued.

Date.	Tennessee.				Arkansas.																		Mississippi.					
	Kenton.		Memphis.		Bentonville.		Dardanelle.§§		El Dorado.§§		Fort Smith.		Hardy.		Little Rock.		Pine Bluff.§§		Texarkana.§§		Wynne.§§		Clarksdale.§§		Corinth.§§		Greenville.§§	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1....	97	60	92	74	96	74	100	68	98	71	99	76	100	70	94	75	98	72	98	69	100	74	97	69	100	70	97	71
2....	95	60	91	75	96	70	98	67	96	69	98	74	101	70	93	74	98	70	98	70	97	74	97	69	98	72	96	71
3....	98	68	93	75	96	67	100	65	98	67	98	74	100	68	95	73	99	69	99	67	99	70	97	67	102	69	99	71
4....	99	70	94	75	99	65	106	65	100	69	102	71	106	70	101	76	103	70	104	69	101	69	100	68	100	75	102	75
5....	91	65	91	71	99	70	103	70	100	73	102	75	97	70	97	75	100	70	102	75	93	69	95	69	86	68	101	72
6....	93	68	90	72	91	68	80	70	91	70	92	74	86	69	86	70	93	71	95	67	90	72	91	70	90	70	96	71
7....	89	70	88	73	90	68	93	68	90	69	91	72	78	68	86	71	92	72	91	70	88	71	88	72	90	70	93	72
8....	93	67	87	73	85	71	88	71	88	69	85	72	88	69	80	69	88	72	90	69	88	73	88	71	90	70	90	72
9....	88	70	87	73	84	68	85	70	86	72	88	71	88	69	82	71	83	72	90	70	89	71	89	73	94	69	89	73
10....	90	65	89	70	81	70	84	70	85	71	85	71	92	68	83	70	87	70	87	70	93	71	92	71	90	70	93	72
11....	87	65	86	72	81	69	82	69	86	71	86	71	84	66	84	71	87	70	87	70	86	71	86	70	86	66	89	70
12....	84	.....	85	65	69	61	75	69	86	69	72	66	75	61	80	63	86	68	82	69	71	67	88	61	86	62	90	64
13....	.....	57	70	60	65	56	64	57	67	63	66	58	66	58	63	54	71	58	61	60	69	58	67	64	74	65	69	65
14....	68	55	67	55	67	56	64	55	68	58	66	56	64	55	63	54	67	56	67	47	70	54	74	57	70	61	77	60
15....	74	60	76	66	68	60	74	59	74	59	76	62	69	58	74	63	80	56	75	47	70	67	77	58	72	60	78	63
16....	76	60	77	66	75	63	74	64	76	66	77	66	75	65	74	66	77	66	77	65	71	67	81	66	78	66	81	66
17....	77	68	75	66	75	59	84	64	74	66	80	66	82	64	79	66	74	65	83	65	69	66	73	66	72	68	73	67
18....	74	62	75	64	77	54	83	64	81	62	81	61	79	60	79	63	77	62	86	65	80	62	80	64	80	64	82	64
19....	80	57	80	64	82	56	86	58	86	59	87	59	80	60	82	63	83	59	92	60	84	59	85	58	84	58	85	62
20....	75	57	71	53	62	46	70	59	75	61	66	52	71	49	71	55	75	59	73	60	72	62	76	61	74	62	79	63
21....	63	47	65	47	64	44	72	45	72	47	69	46	66	42	68	48	72	47	75	45	68	44	70	45	65	47	74	51
22....	73	39	73	51	75	43	81	42	78	44	80	45	75	43	75	46	78	43	83	.....	76	42	78	43	76	42	79	44
23....	79	45	79	57	80	61	83	56	81	48	83	60	78	52	79	58	82	45	88	49	80	54	80	48	80	46	83	46
24....	80	47	81	59	78	61	83	57	81	55	81	60	79	52	78	60	83	52	89	59	81	58	82	50	82	48	84	52
25....	72	57	81	62	63	51	75	58	85	58	68	60	80	59	78	60	83	54	76	64	80	62	84	56	82	52	88	54
26....	81	47	72	56	59	48	60	59	65	64	61	56	73	50	67	55	68	60	71	65	67	65	74	62	76	58	72	63
27....	71	52	68	54	58	50	69	55	70	58	65	56	63	48	61	53	69	55	65	56	70	54	71	57	76	58	75	61
28....	74	63	72	65	64	55	74	55	76	58	68	59	69	56	78	61	77	55	85	56	72	57	73	58	76	58	80	62
29....	79	63	81	68	78	54	85	61	85	68	82	57	80	62	81	63	84	67	91	60	85	68	81	70	80	66	83	72
30....	78	63	81	68	82	54	89	56	85	62	86	57	82	57	82	61	85	63	.....	55	79	69	86	70	90	66	87	71
Mns..	82.0[a]	59.6[a]	80.6	65.0	78.0	59.7	82.1	61.5	82.8	63.2	81.3	63.4	80.9	60.3	79.8	63.6	83.3	62.3	84.8[a]	61.9	81.3	64.0	83.3	62.8	83.6	62.5	85.5	64.7

Date.	Mississippi.						Louisiana.																			
	Kosciusko.§§		Natchez.§§		Vicksburg.		Alexandria.§§		Baton Rouge.§§		Covington.§§		Lafayette.§§		Lake Charles.§§		Monroe.§§		New Orleans.		Robeline.§§		Schriever.§§		Shreveport.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1.....	97	69	94	70	92	71	94	71	94	72	90	72	91	72	95	69	96	70	89	76	97	65	93	70	93	73
2.....	96	68	92	69	94	71	92	71	93	70	93	70	91	71	94	66	94	68	90	77	95	63	92	71	93	72
3.....	101	66	94	68	92	72	92	66	94	69	97	68	90	67	95	64	96	69	93	78	95	61	93	69	94	70
4.....	99	68	97	68	95	71	95	66	92	71	91	68	93	71	97	67	100	72	89	78	100	63	90	69	98	71
5.....	93	66	95	70	91	71	94	69	90	67	87	69	89	69	93	67	98	71	86	69	99	64	88	70	97	75
6.....	88	68	91	71	90	73	89	65	89	69	88	70	89	70	95	66	88	69	85	74	95	65	88	69	90	69
7.....	90	71	88	70	88	72	89	64	88	70	89	72	86	71	93	69	90	69	84	74	93	65	85	69	90	71
8.....	90	70	88	69	88	72	86	69	87	71	84	70	84	71	87	67	89	69	79	71	90	63	83	70	88	70
9.....	91	72	89	71	87	72	89	69	91	72	90	71	86	71	87	67	86	70	87	73	92	65	85	71	88	71
10.....	92	67	84	71	87	70	86	70	87	71	88	72	86	72	79	67	86	70	87	75	89	70	86	73	86	70
11.....	88	67	86	69	84	70	85	68	86	69	86	71	79	71	85	65	86	70	83	74	85	67	84	72	80	69
12.....	90	58	85	67	86	67	82	68	88	70	87	69	81	71	79	67	86	66	86	72	85	65	86	70	83	69
13.....	74	63	75	68	75	67	80	68	78	70	75	70	76	71	84	68	70	68	77	70	79	68	80	70	69	61
14.....	75	65	79	67	78	68	80	69	84	69	82	70	79	69	85	57	78	65	83	71	77	63	84	70	67	60
15.....	84	68	77	67	75	67	75	69	81	67	85	71	81	65	80	58	74	66	85	72	75	63	85	68	72	63
16.....	87	66	84	66	81	66	80	62	91	66	85	65	86	65	90	58	81	64	87	72	86	67	90	65	76	66
17.....	73	68	76	68	75	68	75	62	84	69	84	67	88	69	75	61	71	68	84	73	73	62	86	70	74	66
18.....	81	66	80	66	81	67	80	64	83	70	82	70	84	69	89	64	83	64	81	72	85	64	84	71	84	64
19.....	85	61	86	62	84	66	85	63	91	66	89	68	86	67	92	61	86	63	87	72	89	56	88	67	86	63
20.....	75	62	80	65	75	59	79	63	92	67	80	68	88	67	84	62	78	63	87	71	80	52	88	67	75	56
21.....	70	45	73	47	69	51	74	48	77	53	76	53	79	50	80	50	74	49	73	61	72	48	74	53	73	49
22.....	78	41	78	44	75	50	78	48	81	49	80	46	77	50	79	46	79	46	77	59	82	41	80	49	78	50
23.....	80	44	80	48	79	55	80	48	83	54	83	47	80	57	85	49	82	51	76	64	85	48	83	50	80	56
24.....	81	48	83	53	82	58	83	52	88	56	86	51	84	61	89	55	83	53	80	65	86	52	84	60	81	59
25.....	83	50	84	55	84	64	83	58	86	64	83	54	84	64	85	58	84	60	83	70	82	54	85	63	80	67
26.....	77	60	76	65	72	69	70	58	78	68	83	67	73	69	75	65	69	67	84	74	70	62	84	70	67	64
27.....	82	64	76	67	79	69	75	65	77	70	79	69	77	69	81	65	74	63	80	72	75	65	80	72	70	61
28.....	82	66	80	67	80	71	79	70	81	72	82	72	77	72	83	67	84	68	86	76	80	64	83	70	71	64
29.....	75	70	77	73	75	71	79	70	89	74	84	75	85	74	79	68	82	71	87	75	84	65	87	73	84	66
30.....	85	70	79	71	82	69	80	70	87	75	83	73	84	74	81	67	85	71	90	72	86	67	90	73	84	67
Means.....	84.7	62.9	83.5	64.8	82.5	66.9	82.9	64.1	86.3	67.3	85.0	66.6	83.8	67.6	85.8	62.7	83.7	65.1	84.2	71.7	85.4	61.2	85.6	67.5	81.7	65.1

[a], [b], [c], etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.
§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.

CLIMATOLOGICAL DATA FOR SEPTEMBER, 1913.

DISTRICT NO. 8, TEXAS AND RIO GRANDE VALLEY.

B. BUNNEMEYER, District Editor.

GENERAL SUMMARY.

September was cool and wet, with an unusually large number of cloudy and rainy days. In New Mexico it was the coldest September of record, and in Texas the coldest since 1889, when the mean temperature for the State was 0.8° lower than during the current month. While the extremes of temperature were large, the minimum temperatures as a rule were not as low as recorded in some preceding years. The low mean was due more to low day temperatures resulting from excessive cloudiness than to cold nights. Frosts were general in northern and north-central New Mexico on the 25th and 26th, which is fully two weeks earlier than usual.

Precipitation was frequent in all parts of the district and excessive over a large portion of Texas, especially in coast and eastern counties, where at many stations the monthly amounts exceeded 10 inches, and at one station 20 inches. The average rainfall for the State of Texas during the current month exceeded that of the previous wettest September by 1.30 inches. Less than the normal rainfall occurred in the middle Rio Grande watershed and in a few western and southwestern counties of Texas. Beneficial showers in the western portion of the district between the 3d and 11th, and in the eastern portion of the district between the 8th and 13th, broke the drought in all sections. Excessively heavy rains during the last week did considerable damage to crops in the field and flooded small streams and lowlands.

The snowfall was unusually heavy in the mountain districts. The heaviest monthly fall in Colorado was 15 inches at Platoro and in New Mexico, 21 inches at Anchor Mine.

The number of rainy days was large, averaging 8 in Colorado and New Mexico and 9 in Texas. The greatest and least monthly amounts were, respectively, in Colorado, 3.50 inches at Cumbres and 0.90 inch at La Veta Pass; in New Mexico, 6.36 inches at Plainview and 0.46 inch at Rio Grande Dam; and in Texas, 22.59 inches at Port Arthur and 0.60 inch at El Paso. Excessive precipitation of 2.50 inches or more in 24 consecutive hours occurred at 2 stations in New Mexico and at 68 stations in Texas, the heaviest being 9 inches at Hebbronville on the 24th.

The wind movement was light and the prevailing winds were from the southwest in the western portion of the district, from the south in the middle portion, and from the southeast along the coast.

TEMPERATURE.

The average temperature deficiency was 3.1° in Colorado, 3.5° in New Mexico, and 3.4° in Texas. The first week was a continuation of the hot and dry weather of July and August, but after the 8th the daily temperatures were persistently below the normal except from the 18th to 20th, when the day temperatures were unusually high, especially in the western half of the district. Marked cool periods occurred from the 11th to 17th and from the 21st to 28th. The daily range of temperature varied from 9° on the Texas coast to 35° in the extreme northwestern portion of the district.

The highest and lowest temperatures reported were, respectively, in Colorado, 83° at Saguache on the 7th, and 17° at Wagon Wheel Gap Experiment Station on the 24th; in New Mexico, 100° at Artesia on the 19th, and 21° at Senorito on the 26th; and in Texas, 107° at Dallas and Jewett on the 5th and at McKinney on the 6th, and 35° at San Angelo on the 23d. The local monthly means ranged from 45.2° to 53.1° in Colorado, from 47.7° to 69.6° in New Mexico, and from 62.6 to 80.6° in Texas.

PRECIPITATION.

The average monthly precipitation for the Rio Grande watershed was 2.09 inches, which is 0.27 inch greater than normal. It was unevenly distributed, with a deficiency over the middle portion and a large excess below Eagle Pass, Tex.

In the Rio Pecos watershed every reporting station received more than the average amount of moisture, but the excess was greatest over the lower half. The average for the watershed was 3.24 inches, which is 1.11 inches more than normal.

The precipitation over the Texas watersheds was heavy, with excesses ranging from 1.73 inches for the Nueces to 10.21 for the Neches. The rainfall was less than normal over limited areas in the upper Nueces and Guadalupe watersheds and at one or two stations in the middle Colorado and middle Brazos drainage basins, but elsewhere the excess was general. The following are the average monthly amounts in inches and hundredths for the various Texas watersheds; Nueces, 4.47; San Antonio, 8.03; Guadalupe, 8.08; Lavaca, 9.53; Colorado, 4.64; Brazos, 4.80; Trinity, 6.93; Neches, 13.07; Sabine, 9.62; and coastal plains, 11.33.

RIVER CONDITIONS.

The heavy rains between the 8th and 13th soaked well into the ground, as evidenced by the small run-off; but the rains between the 25th and 27th caused rises in all the streams of the district. The Guadalupe was at flood stage in its extreme lower portion, and the lower Rio Grande and lower Sabine became bank full. At Brownsville, Tex., a levee broke and the water inundated the lowlands, causing a damage of about $500. Creeks and small streams overflowed in numerous localities, flooding lowlands planted to rice and cotton, causing numerous washouts in east Texas and interrupting traffic. The run-off was, however, remarkably small when compared with the total rainfall. Outdoor work was practically at a standstill during the last week.

MISCELLANEOUS PHENOMENA.

Twin meteors.—On September 4 at about 7.08 p. m. "twin meteors" of great brilliancy were observed at Houston and many other places within a radius of about 200 miles. They seemed of equal size and brilliancy, with diameter about that of a good-sized grapefruit and tails over 20° in length. They came from the southeast and moved to the northwest, traveling along parallel lines at an altitude of about 45°. One meteor was about 5° lower than the other and the same distance ahead. They were visible for several seconds, the estimates varying from 5 to 10 seconds and more. The movement was unusually slow and afforded a good opportunity for viewing the rare phenomenon. Several observers reported that originally only one large ball of fire appeared in the southeast and that it soon exploded and formed two balls.

TABLE 1.—*Climatological data for September, 1913. District No. 8, Texas and Rio Grande Valley.*

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Sky.				Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Colorado.																				
Blanca	Costilla	7,865	4	51.2	.....	76	6	23	20†	47	0.92	.....	0.55	0	4	24	3	3	w.	Lewis F. Botens.
Cumbres	Conejos	10,015	6	.....	.....	.....	.....	.....	.....	.....	3.50	.....	1.04	10.5	9	13	15	2	sw.	Mrs. Ida M. Lively.
Garnett	Costilla	7,576	20	52.0	− 2.0	79	20	21	27	54	1.14	+ 0.30	0.35	0	6	10	12	8	se.	Charles Speiser.
Hermit	Hinsdale	9,843	6	.....	.....	.....	.....	.....	.....	.....	3.14	.....	1.39	4.5	9	11	8	11	.....	Miss Marion Mason.
La Veta Pass	Costilla	9,000	3	.....	.....	.....	.....	.....	.....	.....	0.90	.....	0.42	8.0	4	5	23	2	w.	Clara M. Wright.
Manassa	Conejos	7,700	7	53.1	.....	80	3†	23	20	53	1.03	.....	0.36	2.0	8	14	9	7	sw.	J. B. Chapman.
Platoro	....do	7,675	6	.....	.....	.....	.....	.....	.....	.....	2.26	.....	0.46	15.0	15	14	10	6	sw.	Walter R. Hook.
Saguache	Saguache	7,740	21	53.0	− 3.1	83	7†	22	27	51	1.00	+ 0.33	0.50	T.	4	11	2	17	w.	Eugene Williams.
San Luis	Costilla	7,794	22	51.3	− 4.2	78	5	23	27	46	0.97	− 0.13	0.67	2.0	5	10	19	1	sw.	P. B. Albright.
Wagon Wheel Gap Experiment Station.	Mineral	9,610	14	45.2	− 3.1	68	4	17	24	38	2.26	+ 1.04	1.05	6.9	15	7	10	13	.....	U. S. Weather Bureau.
New Mexico.																				
Agricultural College	Dona Ana	3,863	52	66.2	− 6.8	95	19	37	28	49	1.70	+ 0.34	0.43	0	9	13	10	7	se.	N. Mex. Agri. College.
Alamogordo (near)	Otero	4,338	16	66.8	− 4.9	93	2	41	26	42	2.05	+ 0.74	0.65	0	5	13	5	12	s.	Edward Le Breton.
Alamogordo	....do	4,320	4	65.6	.....	87	1†	40	28	34	1.84	.....	0.43	0	7	22	0	8	sw.	Agent E. P. & S. W. R. R.
Alamos Ranch	Sandoval	7,800	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. H. Brook.
Albuquerque	Bernalillo	4,960	37	.....	.....	.....	.....	.....	.....	.....	0.55	− 0.27	0.25	0	6	21	7	2	e.	Pitt Ross.
Ancho	Lincoln	6,112	4	.....	.....	.....	.....	.....	.....	.....	1.67	.....	0.80	0	7	.....	.....	.....	.....	Agent E. P. & S. W. R. R.
Anchor Mine	Taos	10,600	2	.....	.....	.....	.....	.....	.....	.....	4.29	.....	0.94	21.0	13	3	11	16	w.	Chas. H. Brigham.
Artesia	Eddy	3,350	5	67.3	.....	100	19	37	28	54	3.58	.....	2.29	0	5	21	3	6	se.	Will Benson.
Aspen Grove Ranch	Rio Arriba	9,000	4	.....	.....	.....	.....	.....	.....	.....	2.10	.....	0.69	11.8	8	6	24	0	.....	Junius D. Maupin.
Batemans Ranch	....do	8,900	4	.....	.....	.....	.....	.....	.....	.....	2.90	.....	1.12	13.7	9	14	12	4	w.	John W. Bateman.
Berino	Dona Ana	3,788	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. C. Rishaberger.
Bluewater	Valencia	6,732	11	56.3	− 3.0	85	19†	26	21†	59	1.05	− 0.23	0.35	T.	4	13	16	1	sw.	Bluewater Development Co.
Boaz	Chaves	5,154	4	66.0	.....	96	2	40	25†	46	5.22	.....	3.82	0	8	13	13	4	ne.	William Horner.
Capitan	Lincoln	6,348	4	.....	.....	.....	.....	.....	.....	.....	3.32	.....	1.40	0.5	5	5	12	13	nw.	Agent E. P. & S. W. R. R.
Carlsbad	Eddy	3,120	18	69.4	− 4.4	98	19	38	28	48	3.93	+ 2.42	1.60	0	10	14	9	7	se.	U. S. Reclamation Service.
Carrizozo	Lincoln	5,438	5	62.4	.....	89	20	37	29	37	1.16	.....	0.47	0	4	20	6	4	e.	Agent E. P. & S. W. R. R.
Cerrillos (near)	Santa Fe	5,700	1	61.6	.....	89	3	30	28†	50	0.91	.....	0.21	0	9	10	15	5	se.	Irving C. Sweet.
Chama	Rio Arriba	7,851	15	53.2	− 3.7	82	2	27	28	46	2.65	+ 0.74	0.70	5.0	9	18	12	0	sw.	Frank C. Johnson.
Cloudcroft	Otero	8,650	11	49.6	− 3.2	64	1†	28	26	24	3.83	+ 0.79	0.85	4.0	10	13	3	14	nw.	Agent E. P. & S. W. R. R.
Corona	Lincoln	6,666	4	59.0	.....	84	19	31	26	45	2.14	.....	0.60	8.0	6	12	16	2	sw.	Do.
Coyote	....do	5,800	4	.....	.....	.....	.....	.....	.....	.....	1.54	.....	0.60	0	9	20	4	6	sw.	Do.
Cundiyo	Santa Fe	6,889	4	.....	.....	.....	.....	.....	.....	.....	1.16	.....	0.40	0	8	11	10	9	w.	Juan Vijil.
Demonstration Farm	San Miguel	6,800	4	.....	.....	.....	.....	.....	.....	.....	2.16	.....	0.72	5.0	8	.....	.....	.....	.....	C. C. Clayton.
Duran	Torrance	6,272	4	60.0	.....	85	19	32	25†	44	1.74	.....	1.10	8.0	9	15	10	5	sw.	Agent E. P. & S. W. R. R.
Elida	Roosevelt	4,345	1	.....	.....	.....	.....	.....	.....	.....	1.40	.....	0.80	0	3	.....	.....	.....	.....	A. J. Evans.
Escondido	Otero	4,014	4	.....	.....	.....	.....	.....	.....	.....	1.92	.....	1.43	0	4	24	0	6	se.	Agent E. P. & S. W. R. R.
Espanola	Rio Arriba	5,590	15	61.2	− 2.8	91	20	34	28†	47	1.64	+ 0.43	0.64	0	5	22	5	3	s.	Mrs. Ella F. McBride.
Estancia	Torrance	6,140	8	60.0	.....	92	19	30	12†	56	1.49	+ 0.33	0.36	1.0	7	13	9	8	e.	Estancia Drug Co.
Fort Stanton	Lincoln	6,231	36	58.0	− 3.3	87	19	30	29	49	3.57	+ 1.56	0.84	T.	9	12	12	6	nw.	U. S. Sanitarium.
Fort Sumner	Guadalupe	3,960	5	64.7	.....	98	19	36	28	58	1.73	+ 0.33	0.84	0	8	17	10	3	se.	Peter Yocky.
Gallinas	Lincoln	6,635	4	.....	.....	.....	.....	.....	.....	.....	2.27	.....	1.00	6.0	7	17	7	6	e.	Agent E. P. & S. W. R. R.
Gallinas Planting Sta.	San Miguel	7,500	6	53.5	.....	81	19†	30	25†	45	3.52	.....	1.14	4.7	11	16	6	8	sw.	U. S. Forest Service.
Glorieta Ranch	Socorro	6,300	3	66.8	.....	89	19	41	26	29	1.58	.....	0.58	0	8	14	8	8	s.	C. M. Crossman.
Harvey's Upper Ranch	San Miguel	9,400	4	48.3	.....	71	19†	20	27	35	2.77	.....	0.95	8.5	14	12	12	6	w.	R. B. Schoonmaker.
Hobbs	Eddy	3,800	.....	66.8	.....	92	1†	40	28	42	2.98	.....	0.83	0	10	15	4	11	ne.	E. H. Byers.
Hondo Reservoir	Chaves	3,904	4	66.6	.....	98	19	38	28	50	2.60	.....	0.65	0	9	17	9	4	se.	U. S. Reclamation Service.
Jemez Springs	Sandoval	6,100	3	57.8	.....	82	19	32	28	41	1.85	.....	0.90	1.0	8	16	5	9	sw.	Mrs. Linus L. Shields.
Knowles (near)	Eddy	4,300	3	66.2	.....	93	19	41	26†	39	6.22	.....	2.11	0	11	14	11	5	ne.	J. W. Mosley.
Laguna	Valencia	5,840	8	64.2	.....	91	3	35	26†	45	2.15	+ 0.48	1.25	0	4	.....	.....	.....	.....	Gus Weiss.
Lagunita	Guadalupe	4,500	8	59.0[1]	.....	90[1]	2	34[1]	25	43[1]	1.38	.....	1.27	T.	3	15	12	3	sw.	P. A. Turnbull.
Lake Valley	Sierra	5,412	8	.....	.....	.....	.....	.....	.....	.....	1.54	.....	0.34	0	9	14	15	1	sw.	William P. Keil.
Lakewood (near)	Eddy	3,170	1	67.8	.....	98	19	38	27	50	3.95	.....	2.50	0	5	25	1	4	se.	Mrs. J. K. Boyd.
Lanark	Dona Ana	4,156	14	.....	.....	.....	.....	.....	.....	.....	0.61	− 0.73	0.31	0	4	18	9	3	w.	Agent So. Pac. R. R.
Las Vegas	San Miguel	6,385	26	56.8	− 3.7	85	19	31	27	48	3.09	+ 0.84	1.02	8.0	8	15	0	15	sw.	N. Mex. Normal Univ.
Los Lunas (near)	Valencia	4,900	24	64.4	− 1.7	95	9	32	26	50	1.02	− 0.26	0.45	.....	7	13	16	1	.....	Richard Pohl.
Magdalena	Socorro	6,556	8	59.5	.....	86	19	33	26	35	3.15	+ 1.71	1.15	0	6	13	13	4	w.	William Pender.
Mescalero	Otero	6,627	2	56.1	.....	83	19	28	29	42	1.55	.....	0.33	0	10	14	6	10	sw.	Rev. R. H. Harper.
Mineral Hill	San Miguel	7,050	8	.....	.....	.....	.....	.....	.....	.....	2.09	.....	1.28	5.0	4	1	23	6	sw.	W. M. Nelson.
Monterey	Otero	4,436	4	.....	.....	95	1	42	25	.....	1.24	.....	0.35	0	9	18	6	6	s.	Agent E. P. & S. W. R. R.
Moriarty	Torrance	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.86	.....	0.65	2.0	6	25	5	1	e.	Harry J. Fincke.
Mountainair (near)	....do	6,390	11	59.0	− 3.1	88	15	28	27	47	2.09	+ 0.33	0.57	3.0	9	15	8	7	sw.	Miss Julia Hill.
Mountain Park	Otero	7,100	1	.....	.....	.....	.....	.....	.....	.....	2.46	.....	0.54	0	12	15	5	10	w.	Charles E. Beasley.
Newman	....do	3,989	4	.....	.....	.....	.....	.....	.....	.....	0.85	.....	0.30	0	4	19	0	11	w.	Agent E. P. & S. W. R. R.
Nogal (near)	Lincoln	8,000	.....	.....	.....	.....	.....	.....	.....	.....	3.66	.....	0.60	6.0	13	12	10	8	e.	H. E. Kellar.
Noria	Dona Ana	4,114	4	.....	.....	.....	.....	.....	.....	.....	0.78	.....	0.35	0	4	25	0	5	w.	Agent E. P. & S. W. R. R.
Orogrande	Otero	4,171	4	.....	.....	.....	.....	.....	.....	.....	1.38	.....	1.00	0	4	11	14	5	se.	Do.
Oscura	Lincoln	5,016	4	.....	.....	.....	.....	.....	.....	.....	2.12	.....	0.58	0	9	.....	.....	.....	.....	Eugene F. Jones.
Otis	Eddy	3,100	4	.....	.....	.....	.....	.....	.....	.....	2.78	.....	1.20	0	8	17	10	3	se.	A. M. Hove.
Pastura	Guadalupe	5,285	4	.....	.....	.....	.....	.....	.....	.....	1.68	.....	0.70	3.0	7	18	6	6	.....	Agent E. P. & S. W. R. R.
Plainview (near)	Chaves	4,300	2	65.6	.....	92	2	39	26	38	6.36	.....	1.81	0	12	14	11	5	sw.	L. P. Adair.
Red River Canyon	Taos	8,956	6	47.7	.....	78	2	26	13†	44	2.40	.....	0.60	4.0	7	15	10	4	e.	Mrs. L. R. Penn.
Richland	Chaves	.....	.....	62.5	.....	94	20	34	14	53	2.65	.....	1.02	0	5	12	13	5	ne.	K. H. Embree.
Rincon	Dona Ana	4,030	19	67.0	− 4.4	96	19	35	27	49	1.49	− 0.62	1.11	0	3	11	12	7	s.	C. H. Raitt.
Rio Grande Dam	Sierra	4,265	23	69.6	− 0.3	98	19	39	26	41	0.46	− 1.09	0.25	0	7	10	14	6	w.	U. S. Reclamation Service.
Rio Grande Industrial School.	Bernalillo	5,000	2	62.4	.....	89	19	33	27	49	0.98	.....	0.35	0	8	15	9	6	sw.	Rev. A. C. Heyman.
Rosedale	Socorro	6,910	8	57.7	.....	85	19	28	27	39	1.13	.....	0.40	0	5	15	9	6	w.	Mrs. J. J. McInness.
Roswell	Chaves	3,578	19	65.7	− 4.6	95	19	38	28	46	2.67	+ 0.38	0.88	0	8	11	12	7	s.	U. S. Weather Bureau.
San Marcial	Socorro	4,454	16	66.9	− 2.7	95	20	34	28†	53	.....	.....	.....	.....	.....	14	1	15	.....	Agent A. T. & S. F. R. R.
San Rafael	Valencia	6,509	16	60.9	− 2.5	92	19	30	21†	58	1.38	+ 0.03	0.28	0	7	17	3	10	se.	Dr. C. M. Grover.
Santa Fe	Santa Fe	7,013	41	57.2	− 3.4	81	19	32	25	32	1.54	− 0.10	0.68	0.5	9	11	13	6	se.	Section Center.
Santa Fe Canyon	....do	8,000	3	.....	.....	.....	.....	.....	.....	.....	1.87	.....	0.68	1.0	10	11	17	2	e.	Mrs. E. M. Gregory.
Santa Rosa	Guadalupe	4,624	12	64.6	.....	95	19	33	25	48	1.47	+ 0.17	0.91	T.	7	16	6	8	w.	H. V. B. Smith.
Senorito (near)	Sandoval	8,000	1	49.6	.....	76	3†	21	26	52	2.85	.....	1.30	4.0	11	13	12	5	w.	James Curry.
Socorro	Socorro	4,600	21	64.8	− 4.3	92	10	35	13	48	0.48	− 1.28	0.10	0	7	5	23	2	se.	J. J. Leeson.
Stanley	Santa Fe	6,317	4	57.4	.....	85	1†	30	25†	52	2.07	.....	0.73	T.	4	8	6	16	e.	D. C. Kinsell.
Tajique (near)	Torrance	9,820	3	48.6	.....	69	19	23	26	31	2.73	.....	0.83	9.0	9	15	6	9	.....	A. Rea.
Taos	Taos	6,983	18	56.6	− 4.1	85	19	30	30	46	1.88	+ 0.63	0.87	0	7	16	13	1	s.	Alexander Gusdorf.
Taos Canyon	....do	8,959	4	.....	.....	.....	.....	.....	.....	.....	3.19	.....	1.08	1.3	11	18	1	11	.....	L. Martinez, jr.
Tecolote	Lincoln	6,539	4	59.4	.....	82	9†	32	24†	40	1.50	.....	0.52	3.0	9	11	7	12	ne.	Agent E. P. & S. W. R. R.
Three Rivers	Otero	4,559	4	.....	.....	.....	.....	.....	.....	.....	2.01	.....	0.85	0	7	19	2	9	.....	Do.
Tijeras Canyon	Bernalillo	6,450	3	.....	.....	.....	.....	.....	.....	.....	2.24	.....	0.46	T.	12	18	7	5	sw.	U. S. Forest Service.

TABLE 1.—*Climatological data for September, 1913. District No. 8*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Sky.				Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
New Mexico—Contd.																				
Torrance	Torrance	6,433	4								2.41		1.38	4.0	5					
Tres Piedras	Taos	8,075	10	52.0		81	19	25	27	47	1.29	+ 0.17	0.75	10.0	4	9	6	15	sw.	U. S. Forest Service.
Truchas	Rio Arriba	7,935	4	52.2		75	20	29	25	36	2.82		1.50		13	15	10	5	sw.	Miss T. Esquibal.
Tularosa	Otero	4,436	3																	I. L. Fairless, agent.
Vaughn	Guadalupe	5,952	4			84	5	33	25		2.37		1.47	10.0	3	14	9	7	sw.	Agent E. P. & S. W. R. R.
Virsylvia	Taos	7,500	3	53.1		75	5†	27	26	32	1.80		0.59	2.0	13	15	10	5	s.	Dr. I. N. Woodman.
Willard	Torrance	6,086	1	59.2		88	10	30	12	52	1.56		0.65	1.5	9	18	1	11	sw.	Dr. Volney S. Cheyney.
Winsors	San Miguel	8,200	17	48.9	− 2.5	72	14†	23	27	42	1.99	+ 0.04	0.82	5.0	14	11	17	2	se.	James F. Matty.
Texas.																				
Abilene	Taylor	1,738	28	72.7	− 1.5	99	19	47	21	38	4.42	+ 1.28	2.90	0	9	14	7	9	s.	U. S. Weather Bureau.
Albany	Shackelford	1,429	19	71.2	− 4.3	101	3†	42	21	42	4.56	+ 1.87	1.87	0	7	18	3	9		N. L. Bartholomew.
Alice	Jim Wells	209	2	78.7		102	6	49	21	34	8.07		2.90	0	9	13	8	9	se.	R. M. Boerum.
Alpine	Brewster	4,482	3								3.35		1.20	0	5	14	0	16	s.	H. B. Cowles.
Alvin	Brazoria	49	15	74.2		96	4	49	22	33	3.67	− 1.09	1.01	0	8	2	10	18	e.	Alvin Japanese Nursery.
Anahuac	Chambers	23	4								18.48		4.10	0	17					Lone Star Canal Co.
Angleton	Brazoria			75.5		96	6	49	21	31	10.71		3.21	0	13	6	6	18	n.	N. C. Winters.
Antelope	Jack		2								3.56		1.92	0	6	17	7	6		Paul Rudolph.
Aspermont	Stonewall		2								2.90		1.40	0	5	15	1	14	se.	Bryant Link Co.
Austin	Travis	593	57	72.7	− 5.4	96	6	50	22	30	5.68	+ 1.94	1.78	0	10	10	5	15	se.	A. Deussen.
Ballinger	Runnels	1,637	17	73.8	− 1.9	101	5	43	21	48	3.70	+ 0.46	1.55	0	7	18	4	8	s.	E. M. Eubank.
Barstow	Ward	2,573	6	72.0		98	19†	40	28	44	4.70		1.60	0	6	11[a]	8[a]	10[a]	se.	F. P. Ingerson.
Bay City	Matagorda	53	3	74.9		92	6	58	21	21	11.82		2.57	0	14	7	6	17	n.	E. C. Quereau.
Beaumont	Jefferson	29	12	77.9	− 2.8	99	3	54	20	27	16.33	+13.40	6.02	0	15	11	1	18	n.	John Bender.
Beeville	Bee	225	17	74.6	− 6.1	102	6†	46	21	39	13.06	+10.28	5.25	0	14	10	0	20	n.	Geo. E. Faupel.
Big Spring	Howard	2,396	15	72.6	− 4.3	102	19	42	28	46	2.72	+ 0.25	1.02	0	6	7	16	7	s.	B. Reagan.
Blanco	Blanco	1,350	17	75.2	− 1.5	100	5	49	21	36	7.62	+ 4.49	3.90	0	11	15[a]	4[a]	10[a]	s.	R. C. Crist.
Boerne	Kendall	1,412	21	72.0	− 4.0	99	6†	39	20	41	5.64	+ 2.70	2.18	0	11	9	16	5	e.	F. W. Schweppe.
Booth	Fort Bend	81	12								7.47	+ 4.45	1.50	0	14	13	0	17	e.	T. R. Booth.
Bowie	Montague	1,113	18	74.4	− 3.7	106	4†	46	21	33	4.71	+ 1.79	1.47	0	12	14	3	13	n.	Craig Anderson.
Brazoria	Brazoria	25	24	77.0	− 0.9	99	6	50	22	32	8.69	+ 3.13	1.95	0	18	15	5	10	n.	Mrs. M. A. Stevens.
Brazos	Palo Pinto	801	4								4.43		1.27	0	9	14	4	12	n.	Robt. E. Boyett.
Brenham	Washington	350	28	75.7	− 3.3	100	6	54	21	31	4.00	+ 0.80	1.73	0	8	9	4	17	se.	Mrs. B. F. Sloan.
Bridgeport	Wise	754	4								3.90		1.20	0	10	10	7	13	s.	Claud Strange.
Brighton	Nueces	12	20	79.8	− 0.8	98	1†	52	22	33	13.57	+10.55	4.42	0	11	19	1	10	e.	G. H. Ritter.
Brownsville	Cameron	38	49	79.2	− 1.1	98	7	56	22	29	14.38	+ 8.76	6.56	0	18				s.	U. S. Weather Bureau.
Brownwood	Brown	1,342	21	73.3	− 3.5	103	5	44	21	43	2.92	+ 0.14	2.30	0	5	10	10	10	s.	Mrs. Pearl Smith.
Bryan	Brazos			75.8		103	4†	50	20	33	5.91		2.20	0	9	9	1	20	n.	Jno. Daly, jr.
Buena Vista	Pecos		1								4.85		1.28	0	8	20	4	6		W. H. Denis.
Cameron	Milam		5	75.4		106	4†	48	20	35	3.68		1.47	0	11	20	0	10	se.	J. E. Watts.
Carmona	Polk	330	5	74.2		100	5	44	21	38	9.33		3.60	0	17	8	11	11	s.	M. S. Spitler.
Carrizo Springs	Dimmit		1	80.2		99	1†	60	22†	32	4.20		2.60	0	5	10	0	20	se.	M. E. Cook.
Claytonville	Fisher	2,100	18	74.4	− 1.4	101	19	44	28	46	3.28	+ 0.73	2.05	0	6	19	1	10	sw.	Wm. Lanius.
Cleburne	Johnson	758	8	73.9		106	6	44	21†	43	6.72		3.22	0	11	12	4	14	se.	W. S. Ownsby.
Clifton	Bosque	671	2								8.10		3.05	0	12	9	8	13	n.	R. M. Jones.
Coleman	Coleman	1,710	19	75.8	+ 1.2	104	7	49	28	46	2.11	− 1.50	1.19	0	5	10	15	5	ne.	J. E. Stevens.
Collegeport	Matagorda		1																	H. A. Clapp.
College Station	Brazos	308	23	77.0	− 2.0	104	6	51	21	33	3.15	− 0.17	0.74	0	13	8	4	18	s.	Prof. G. S. Fraps.
Colorado	Mitchell	2,066	19	72.1	− 3.0	102	19	44	21†	44	4.00	+ 1.63	1.44	0	7				n.	R. M. Webb.
Columbus	Colorado	206	9								11.55		4.85	0	11	7	4	19	n.	Mrs. Sophie Bridge.
Comanche	Comanche	1,358	7	75.2		103	5†	48	21	36	1.04		0.40	0	4	11	11	8		W. T. Nabers.
Corpus Christi	Nueces	20	26	77.5	− 1.5	92	6	59	22	21	9.17	+ 5.17	4.24	0	10	2	18	10	e.	U. S. Weather Bureau.
Corsicana	Navarro	445	24	72.8	− 4.5	102	5	52	21	34	5.98	+ 3.19	2.45	0	12	13	2	15	s.	D. H. Winn.
Cotulla	La Salle	425	6								6.30		2.80	0	6					Holland Agricultural Co.
Crockett	Houston	350	9	75.0		104	5	49	21	35	8.56		3.36	0	14	11	6	13	s.	A. M. Rencher.
Cuero	De Witt	177	23	76.8	− 2.9	100	7	49	22	36	9.94	+ 5.99	5.67	0	11	12	2	16	s.	H. R. Frobese.
Dallas	Dallas	466	24	73.6	− 3.8	107	5	48	22	39	7.16	+ 4.34	2.15	0	12	8	0	22	s.	G. A. Eisenlohr.
Danevang	Wharton	145	17	77.2	− 1.9	100	5†	51	22	34	9.70	+ 5.85	2.95	0	6	10	8	12	se.	H. P. Hermansen.
Del Rio	Valverde	952	7	76.6	− 2.3	100	7	50	21	36	1.59	− 1.35	0.61	0	9	12	12	6	se.	U. S. Weather Bureau.
Denton	Denton	621		74.4		106	5†	43	21	38	4.58	+ 0.53	1.56	0	12	14	2	14	s.	T. W. Buell.
Devine	Medina	653	3	77.8		106	1	50	22†	41	3.57		1.80	0	6	15	8	7	se.	M. A. Keller.
Dialville	Cherokee	575	10	73.9	− 5.0	102	5	49	21	31	11.76	+ 9.60	3.15	0	17	10	7	13	s.	J. M. B. McKnight.
Dilley	Frio	569	3								7.60		2.75	0	7					John W. Miller.
Dublin	Erath	1,466	17	72.6	− 4.0	104	5†	42	21	41	1.68	− 0.84	0.51	0	8	11	9	10	s.	Jno. O. Shafer.
Duval	Travis	820	24	74.6	− 4.9	99	5	53	22	29	5.58	+ 3.13	3.01	0	8	8	6	16	s.	J. C. Edgar.
Eagle Pass	Maverick	800	36	80.0	− 1.7	106	7	50	21	42	1.70	− 1.61	0.71	0	8	11	15	4	se.	Charles Tarver.
Eastland	Eastland	1,420	6	71.8		100	5†	38	21	47	2.70		1.40	0	5	16	12	2	s.	James A. Beard.
Edna	Jackson	71	4								10.66		3.20	0	9					E. L. Faires.
El Paso	El Paso	3,762	34	69.2	− 3.5	94	19	44	28	40	0.60	− 0.85	0.37	0	4	16	9	5	e.	U. S. Weather Bureau.
Encinal	La Salle	558	5																	Walter Pettit.
Fairland	Burnet	1,000	24	74.9	− 2.1	104	5	47	21	36	5.03	+ 2.49	3.33	0	10	9	10	11	s.	R. L. Bush.
Falfurrias	Brooks		5	80.4		105	1†	47	22	42	6.17		2.19	0	10	12	15	3	se.	W. A. Gardener.
Flatonia	Fayette	465	5	76.0		103	7	50	21	32	5.61		1.25	0	13	10	0	20	e.	Fred W. Laux.
Flint	Smith	483	3	73.6		106	5	48	21	33	13.41			0	13	13	3	14	se.	F. C. C. Carter.
Fort Clark	Kinney	1,050	42	75.6	− 2.9	96	5	52	23	35	2.20	− 0.92	1.20	0	4	23	2	5	se.	Post Hospital.
Fort Davis	Jeff Davis	5,000	34								4.25	+ 1.30	1.31	0	8					C. H. Bird.
Fort McIntosh	Webb	460	45	79.8	− 2.3	104	7	53	20	44	5.93	+ 3.18	2.80	0	8	8	9	13	n.	Post Hospital.
Fort Stockton	Pecos	3,050	16	70.9	0.0	97	1†	43	28	42	4.39	+ 1.38	1.10	0	10	10	17	3	se.	H. H. Butz.
Fort Worth	Tarrant	670	18	72.9	− 3.8	104	5	49	21	31	7.29	+ 4.34	2.50	0	11	11	6	13	s.	U. S. Weather Bureau.
Fowlerton	La Salle			79.3		105	6†	49	22	41	3.78		1.10	0	6					W. B. Patton.
Fredericksburg	Gillespie	1,742	24	72.0	− 3.8	95	7	45	21	35	3.06	+ 0.04	0.79	0	12	10	12	8	n.	Arthur Striegler.
Gail	Borden		1	73.8		100	19	44	26†	42	3.30		1.00	0	5	19	7	4	s.	J. D. Brown.
Gainesville	Cooke	738	23	74.2	− 2.8	106	5	46	21	38	5.28	+ 2.04	2.05	0	9					B. F. Mitchell.
Galveston	Galveston	69	42	76.8	− 2.6	91	4	62	21	16	18.68	+13.27	7.36	0	15	5	11	14	se.	U. S. Weather Bureau.
Garden City	Glasscock		1								3.38		1.27	0	8	16	9	5	e.	C. W. Cunningham.
Gatesville	Corvell	795	9	74.1		103	6	47	21	35	5.42		2.50	0	7	16	4	10		John Ryan.
Georgetown	Williamson	750	18	73.8	− 4.4	102	5	45	21	39	4.78	+ 1.58	2.33	0	10	14	6	10	n.	Prof. R. F. Young.
Goliad	Goliad	164	1								12.16		4.60	0	7					W. B. Campbell.
Gonzales	Gonzales	299	8								6.41		2.60	0	10	14	4	12		J. M. Johnson.
Goree	Knox		1								3.66		1.96	0	7	15	7	8	n.	R. L. Gaines.
Gorham	McLennan	444	4					45	21		8.73		3.50	0	9	13	2	15	s.	John Gorham.
Graham	Young	1,040	14	73.4[a]	− 3.6	101[f]	2	50	26	43	2.63	− 0.15	1.76	0	5	13[f]	3[f]	8[f]	n.	C. W. Johnson.
Grand Falls	Ward		3								4.33		1.20	0	7	6	21	3		W. A. White.
Grand Saline	Van Zandt	399	3								8.20		3.00	0	10	9	9	12	se.	Jas. Kirk.

TABLE 1.—*Climatological data for September, 1913. District No. 8*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Sky.				Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Texas—Continued.																				
Grapevine	Tarrant	670	23	73.7	− 4.6	105	5	49	21	35	8.08	+ 5.63	2.60	0	8	8[b]	6[b]	14[b]	s.	W. J. Crowley.
Greenville	Hunt	550	13	73.2	− 5.6	106	5	50	21	33	8.15	+ 4.74	2.60	0	9	10	0	20	s.	Mrs. L. A. Regan.
Hallettsville	Lavaca	235	21	76.2	− 3.5	97	6†	52	22	29	8.40	+ 5.81	1.90	0	10	12	7	11	n.	Dr. J. E. Lay.
Hamlin	Jones	1,685	2								2.35		0.75	0	4					W. S. Carruthers.
Harlingen	Cameron	37	2	80.6		102	6	56	22	33	8.43		4.53	0	14	11	14	5	se.	Lindsay Waters.
Harper	Gillespie		2								6.76		2.50	0	13	9	10	11		D. C. Barker.
Haskell	Haskell	1,553	18	73.4	− 4.2	101	6†	49	26	39	3.05	+ 0.81	0.98	0	6	12	11	7	s.	P. D. Sanders.
Hayfiat	Winkler		3								1.70		0.80	0	4					M. M. Leeman.
Hebbronville	Duval		6								11.41		9.00	0	9					Henry Edds.
Hempstead	Waller	254	9								7.16		2.70	0	5	5	1	24	ne.	J. H. Hancock.
Henderson	Rusk	500	4								11.89		3.06	0	13	9	6	15		M. Kangerga.
Hewitt	McLennan	664	18								8.40	+ 5.95	6.10	0	8					I. H. Earle.
Hico	Hamilton		2								3.16		1.57	0	5	12	4	14	s.	John A. Eakins.
Hillsboro	Hill	628	10	73.6		105	5†	49	20	35	13.25	+10.78	3.50	0	11					Thompson & Campbell.
Hondo	Medina	901	14	75.5	− 5.0	99	7	47	23	40	2.61	− 0.76	0.75	0	7	19	6	5	se.	H. E. Haass.
Houston	Harris	138	23	76.0	− 2.9	97	6	54	21	25	13.37	+ 9.14	4.55	0	17	4	10	16	se.	U. S. Weather Bureau.
Huntsville	Walker	400	29	73.8	− 3.8	97	5	42	21	33	7.16	+ 4.27	2.12	0	9	10	0	20	se.	W. Y. Barr.
Jayton	Kent		3								2.20		1.00	0	4	17	0	13		Wichita Valley R. R. Co.
Jewett	Leon	496	9	74.2		107	5	51	23	40	7.08		2.75	0	9	10	6	14	n.	Earle Adkisson.
Junction	Kimble	1,645	12																	Judge John S. Durst.
Kaufman	Kaufman	448	14	74.4	− 4.6	105	5	48	21	32	6.82	+ 3.82	1.69	0	11	12	6	12	s.	B. J. Hubbard.
Kerrville	Kerr	1,650	17	72.9	− 2.7	97	7	40	22	42	2.05	− 0.82	0.65	0	10	9	15	6	n.	Robert E. Horne.
Knickerbocker	Tom Green	2,050	9	74.2		98	7†	41	21	48	0.73		0.36	0	5	18	9	3	se.	Jos. Tweedy.
Kopperl	Bosque	576	16								5.46	+ 2.67	1.80	0	9	5	7	18	n.	T. A. Johnson.
Lagrange	Fayette	276	3								6.28		2.48	0	13	13	1	16	se.	August Hermes.
Lamesa	Dawson	2,500	3								4.80		1.50	0	8					S. D. Austin.
Lampasas	Lampasas	1,026	21	70.2	− 6.6	98	5	45	22	38	6.55	+ 4.00	3.52	0	10	10	0	20	n.	Mrs. K. I. Webber.
La Parra	Willacy	38	11								6.05	+ 2.47	1.60	0	9	12	5	13		Jno. G. Kenedy.
Laredo	Webb	421																		Mrs. A. H. Jackson.
Laureles Ranch	Nueces	20	13																	Matt Cody.
Liberty	Liberty	38	9	75.5		97	4	47	22	36	8.49		3.30	0	14	11	5	14	e.	Mrs. Fannie Sneed.
Llano	Llano	1,040	22	74.4	− 4.6	97	2	47	21	34	1.07	− 0.91	0.40	0	8	9	12	9	se.	E. W. Torrence.
Llano Grande	Hidalgo	86	5	77.7		100	5†	52	21†	38	4.39		1.43	0	7	5	24	1	se.	M. D. Wardlow.
Long Lake	Anderson	229	8								7.60		3.00	0	11	9	2	19	s.	Geo. W. Ellis.
Longview	Gregg	336	27	73.8	− 3.9	102	5	50	22	32	11.96	+ 9.07	3.18	0	11	16	0	14	se.	C. A. Propst.
Lubbock	Lubbock		2	68.6		95	7	40	28	37	4.19		1.32	0	11	16	6	8	ne.	V. L. Cory.
Lufkin	Angelina	325	6	74.1		98	1†	45	21	37	12.00		2.51	0	16	8	2	20	s.	T. A. King.
Luling	Caldwell	418	24	75.8	− 3.4	98	7	50	21	31	6.57	+ 3.65	2.20	0	14	12	4	14	n.	John Carter.
Lyford	Cameron																			B. D. Stevenson.
McGregor	McLennan	713	3								6.63		3.90	0	7	20	3	7	s.	W. H. Whitley.
McKinney	Collin	612	11	72.6		107	6	44	21	46	6.54	+ 2.58	2.45	0	12	11	5	14	se.	H. Killingsworth.
Marathon	Brewster	4,043	3	62.6		87	19	37	26	37	4.30		1.27	0	9	11	9	10	e.	Rev. A. P. Willis.
Marble Falls	Burnet	771	5								8.48		4.00	0	6	15	0	15	s.	B. E. Cochran.
Marfa	Presidio		5								4.20		1.10	0	8					W. L. Jones.
Marshall	Harrison	375	12	73.6		104	5	46	21	37	13.63	+11.22	3.73	0	14	2	15	13	se.	Lee Scott.
Matagorda	Matagorda	12	3								17.52		5.96	0	9	18	5	7	s.	W. E. McNabb.
Mexia	Limestone	537	9	74.2		106	5	52	21†	37	4.87		2.73	0	9	8	7	15	s.	Isidore Newman.
Midland	Midland		10	69.4		97	19	41	28	45	4.68	+ 2.69	1.10	0	6	3[b]	17[b]	8[b]	ne.	A. G. Graham.
Mission	Hidalgo	140	3																	Roy Conway.
Mont Belvieu	Chambers	65	3								9.75		1.95	0	17	11	4	15	e.	A. R. Shearer.
Montell	Uvalde		1								2.30		0.66	0	9	9	13	8	se.	A. G. Beecroft.
Mount Blanco	Crosby	2,750	24	68.6	− 3.4	95	7†	39	28	46	3.66	+ 1.53	1.77	0	4	16	4	10	se.	Geo. W. Smith.
Nacogdoches	Nacogdoches	271	14	72.9	− 3.4	102	5	47	21†	33	11.87	+ 8.51	2.11	0	14	8	8	14	s.	Miss Mary Hofmann.
New Braunfels	Comal	720	24	74.2	− 3.6	96	6	50	22	31	4.66	+ 1.86	1.00	0	11	13	7	10		J. Giesecke.
Palestine	Anderson	510	31	73.2	− 1.5	101	5	50	21	31	6.64	+ 3.44	3.17	0	16	9	8	13	e.	U. S. Weather Bureau.
Panter	Hood	1,000	24								3.65	+ 1.09	2.00	0	9					E. H. Snyder.
Pearsall	Frio	629	3								3.50		1.57	0	8					Earnest De Vilbiss.
Pierce	Wharton	102	7	77.8		101	6	52	21	30	7.87		2.06	0	15	6	0	24	n.	R. B. Pointer.
Plainview	Hale	3,370	17	63.8	− 7.2	95	7	39	14	42	3.33	+ 1.05	1.12	0	10	11	9	10	s.	J. F. Sander.
Port Arthur	Jefferson										22.59		8.50	0	11					Griffing Brothers.
Port Lavaca	Calhoun	20	12	76.5	− 3.8	100	5	53	21	28	16.51	+12.43	3.53	0	12	10	6	14	n.	J. H. Bickford.
Post	Garza	2,700	3								3.48		1.30	0	7	13	5	12	ne.	W. T. Mann.
Putnam	Callahan	1,591	2								4.65		1.90	0	5	21	0	9	se.	S. M. Davis.
Raymondville	Cameron		2	79.0		100	7	51	22	36	5.33		1.38	0	13	9	12	9	se.	C. H. Pease.
Ricardo	Nueces	57	4	77.6		100	6†	49	21†	38	7.63		2.40	0	10	7	8	15	se.	J. S. Lehman.
Rio Grande City	Starr		36								4.60	+ 1.47	1.60	0	6	17	3	10	se.	D. N. Garza.
Riverside	Walker	169	9								7.88		2.65	0	11	10	2	18	s.	Mrs. C. W. Higdon.
Rockland	Tyler	136	9								16.90		5.50	0	11					Mack Dunkin.
Rockport **	Aransas	12	12	77.6	− 2.0	88	7	59	21	20	17.41	+11.34		0	9	11	11	8	e.	Mrs. G. B. Grewe.
Rossville	Atascosa	558	6	74.4		97	7	50	21†	30	7.38		1.71	0	11	9	17	4	se.	W. F. M. Ross.
Runge	Karnes	308	18								10.93	+ 7.99	3.94	0	7					Reiffert & Frobese.
Sabinal	Uvalde	964	9	79.9		102	7	48	22	38	1.79		0.36	0	9	10	9	11	se.	H. W. Reily.
Salado	Bell		3								4.49		2.26	0	7	8	0	22	s.	L. M. Crockett.
San Angelo	Tom Green	1,847	22	64.2	−10.5	99	3	35	23	31	1.57	− 1.14	0.63	0	4	8	12	10	s.	Sam Crowther.
San Antonio	Bexar	701	28	75.6	− 1.5	99	7	53	21	28	7.21	+ 4.27	2.48	0	13	12	11	7	n.	U. S. Weather Bureau.
San Augustine	San Augustine	360	4	74.0		100	5	45	21	36	14.14		6.45	0	15	8	7	15		F. A. Wilson.
San Juanito	Hidalgo		4	80.5		100	1†	52	21	33	6.01		1.83	0	13	3	1	26		J. B. McAllen.
San Marcos	Hays	558	20	75.7	− 2.9	95	2	52	22	31	2.40	− 0.20	0.90	0	6	18	0	12	e.	Miss L. C. Ford.
San Saba	San Saba	1,712	12	73.5	− 3.3	99	5	42	21	41	2.07	− 0.62	0.94	0	8	16	9	5	s.	Jas. Burns.
Santa Anna	Coleman	1,744									2.81		1.10	0	4					L. L. Shield.
Santa Gertrudes	Nueces		13								6.74	+ 4.04	1.95	0	7					J. B. Wright, jr.
Sealy	Austin	201	2								7.60		2.09	0	11	5	8	17	ne.	O. H. Albert.
Seymour	Baylor	1,320	7	74.0		104	5	44	22	49	4.63		3.10	0	6	17	5	8	ne.	T. J. North.
Snyder	Scurry		2	68.4		98	19	42	28	35	2.44		0.80	0	12	13	12	5	n.	Olin F. Hardy.
Somerville	Burleson	251	4	77.0		102	6	50	22	35	5.40		1.60	0	7	13	3	14	s.	Ed. Herbst.
Sonora	Sutton	2,200	9	72.1		97	7	40	21	45	1.42		0.80	0	4	13	5	12	s.	C. R. Myers.
Spur	Dickens	2,300	2	70.2		98	5†	41	28	45	6.14		2.18	0	8	15	7	8	n.	J. D. Reagan.
Stamford	Jones		2	75.1[d]		98	6†	48	25†	34	3.72		2.27	0	5	12[d]	10[d]	4[d]		W. I. Pratt.
Sugarland	Fort Bend	79	12	75.8	− 3.4	98	6	51	21	30	6.74	+ 3.21	2.32	0	12	12	6	12	e.	Paul C. Rudat.
Sutherland Springs	Wilson	424	3								4.22		1.60	0	6					W. W. Craft.
Tahoka	Lynn			68.4		99	19	38	28	41	4.01		1.85	0	11	5	23	2	n.	H. C. Crie.
Taylor	Williamson	583	12	73.4	− 3.5	99	6	50	21	32	3.88	+ 0.84	1.10	0	12	8	8	14	n.	U. S. Weather Bureau.
Temple	Bell	630	23	72.9	− 4.9	100	5†	54	21†	31	6.55	+ 3.93	1.80	0	12	12	3	15		W. Goodrich Jones.
Thurber	Erath		3								3.50		2.49	0	5					J. K. Ball.

TABLE 1.—*Climatological data for September, 1913. District No. 8*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, 0.01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Texas—Continued.																				
Tivoli	Refugio		3								19.01		6.07	0	13					W. H. Gisler.
Troup	Smith	467		73.4		103	5	46	21	31	10.19		5.30	0	15	10	6	14	se.	W. S. Hotchkiss.
Uvalde	Uvalde	937	18	77.6		102	6	45	21†	35	4.80	+ 2.40	3.00	0	5	17	10	3	se.	J. C. McBride.
Valley Junction	Robertson	289	13								4.40	+ 1.50	1.00	0	8	16	0	14	s.	Frank Fitzpatrick.
Victoria	Victoria	187	14	75.8[b]	− 4.5	101	7	53	22	32[a]	16.48	+13.42	7.40	0	6	14	0	16	n.	C. C. Zirjacks.
Waco	McLennan	424	24	74.4	− 4.4	101	6	51	21	31	11.17	+ 8.58	4.80	0	6	12	3	15	s.	A. E. Howell.
Waxahachie	Ellis	556	16	73.1	− 4.6	106	5	45	21	38	5.64	+ 2.64	2.13	0	14	9	10	11	e.	E. Q. Vestal.
Weatherford	Parker	864	24	72.4	− 4.0	102	6	48	21	34	3.29	+ 0.85	1.04	0	11	15	0	15	n.	Miss J. Stickfort.
Wills Point	Van Zandt	524	8	72.7		106	5	47	21	39	6.14		1.48	0	8	11[a]	4[a]	14[a]	s.	W. W. Gibbard.
Winters	Runnels		2								6.12		2.92	0	5					Ed. P. Eason.

[a], [b], [c], etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.
** Temperature extremes are from observed readings of the dry bulb: means are computed from observed readings.
† Also on other dates.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 2.—*Daily precipitation for September, 1913. District No. 8, Texas and Rio Grande Valley.*

Stations.	Watershed.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Colorado.																																
Bianca	Rio Grande		T.		T.			T.	T.	.10		.05					T.						T.	.55		.22		T.				0.92
Cumbres	do	.20	.28		.42	.16																	.86	1.04	T.	.48	.02	.04				3.50
Garnett	do	T.			.05				.17		.28													.35		.10		.19				1.14
Hermit	do	T.	T.	.22	.11	.41	T.	1.31	.08	.11	.11	T.				T.							.48	.31		T.		T.	T.			3.14
La Veta Pass	do									T.		.08				.18	T.								T.	.22	.42					0.90
Manassa	do	.03			.07				.20	.02						T.								.36		.20	.10	.05				1.03
Platoro	do	.05		.11	.06	.04		.01	.25	.05		.10	.02	T.									.39	.43	.03	.46	.23	.03				2.26
Saguache	do	.10	.30	T.												T.							T.	.50	T.			T.	.10			1.00
San Luis	do		T.		T.			T.	.01		T.	.01			T.								T.	.67		.20		T.	.08		T.	0.97
Wagon Wheel Gap Experiment Station.	do	.08	.03	.10	.27	T.	T.	.11	.30	.01	T.	.04	.02		T.	.01							.63	.54		.05		.02				.05	2.26
New Mexico.																																
Agricultural College	Rio Grande		.13	.12	.07	.13					.34												.12		.02	.34	.43					1.70
Alamogordo (near)	do		T.		T.	.60	.65																	T.		*	.62			.18		2.05
Alamogordo	do				T.	.20	.22	.40	.43															T.		.15	.34	.10				1.84
Alamos Ranch	do																															
Albuquerque	do	.01		.04	.04		.25	.16	T.														.05									0.55
Ancho	do			.06	.11			.05																.25	.10	.80	.30					1.67
Anchor Mine	do					.16		.33		.14	.18	.14	.80			.02	.34						.11	.94	.11	.90	.12					4.29
Artesia	Pecos				2.29	.62		T.				.07													T.	.20	.40	T.				3.58
Aspen Grove Ranch	Rio Grande	.01										.01	.19										.69	.41		.51	.21	.07				2.10
Batemans Ranch	do	T.		.05		.20		T.	T.		T.	.09	.20			.03							.42	1.12		.69	.10	T.				2.90
Berino	do																															
Bluewater	do		T.		T.	.20			.35				T.											.20		.30						1.05
Boaz	Pecos			.02	3.82				.66	.02		.10														.33	.18	.09				5.22
Capitan	do				1.40	.20																		1.05		.02					.65	3.32
Carlsbad	do			*	1.60	.55		.32			.19	.14												T.	.20	.29	.52	.12					3.93
Carrizozo	Rio Grande																								.47		.47	.18	.04			1.16
Cerrillos (near)	do			T.	.04	T.		.11	.05	.08	.09	T.											.07	.10	.21	.16	T.	T.			T.	0.91
Chama	do				.40	.20	.20		.30			T.	.15										.32	.70	.15	.23		T.				2.65
Cloudcroft	Pecos		.25	.25			.62	.85	.40	.25	.31													.10		.10	.70					3.83
Corona	do			.36				.30																	.60	.60	.08	.20				2.14
Coyote	Rio Grande			.15		T.	.04	.25	.03	.11													T.	.08	T.	.69	*	.19				1.54
Cundiyo	do				.08				.07				.03				.08						.09	.40	.21	.20						1.16
Demonstration Farm	Pecos			.30	.11			.05			.34												.20	.20		.72					.24	2.16
Duran	do			.10	.12				.05	.27	.03													.05	.15	.95		.02				1.74
Elida	do																									.30	.30				.80	1.40
Escondido	Rio Grande			T.		.26		1.40	.03																	.23						1.92
Espanola	do	T.								T.														.40	.64	.20	.30		.10			1.64
Estancia	do			.05	.16			T.	.22	T.														.36	.26	.18	.26					1.49
Fort Stanton	Pecos	T.	.14	.69	.84	.35		T.	.42	.06	T.	T.											T.	T.	T.	.57	.40	.10			T.	3.57
Fort Sumner	do	T.	T.		.08			.03	.84	.07	.05						T.						T.	T.	T.	.07	.26	.33				1.73
Gallinas	do			.28	.29				.28	.12													T.	.05	.25	1.00						2.27
Gallinas Planting Station.	do			T.	T.	.02			.08	1.14	.71	.04				T.	.13						T.	.61	.07	.59	T.	.02			.11	3.52
Glorieta Ranch	Rio Grande			.53	.12	.10	.02	.58														.02	.01	.20								1.58
Harveys Upper Ranch.	Pecos			.12	.05			T.	.55	.15	.15	.12	.05			T.	.05						T.	.95	.12	.34	.05	.03			.04	2.77
Hobbs	do	T.		.10	.62			T.	.11	T.	.49	.17												.01	.09	.10	.46	.83				2.98
Hondo Reservoir	do		.28	.05	.54	.05		T.				.18													T.	.65	.62	.04			.19	2.60
Jemez Springs	Rio Grande				.15						.25	.03	.10			.15							.20	.90	.07			T.				1.85
Knowles (near)	Pecos	.20		.90	.18			.16		2.11		.88												.03	.08	.35	.48	.85				6.22
Laguna	Rio Grande					1.25	.40		T.		T.												.30	T.		.20						2.15
Lagunita	Pecos																								.11	*	1.27					1.38
Lake Valley	Rio Grande		.32	*	.10	.05	.21	.34	.20		T.														.12		.20					1.54
Lakewood (near)	Pecos				2.50	.50																			.50	.37	.08					3.95
Lanark	Rio Grande		.25	*	.31																				.05							0.61
Las Vegas	Pecos								.28	.51	.41						.05						.15	.17		1.02					.50	3.09
Los Lunas (near)	Rio Grande				.14	.22		.03	.04														.11	.45		.03						1.02
Magdalena	do	T.		T.	1.15		.10		.50	T.														1.00	.25	.15	T.					3.15
Mescalero	do			.16	.33	.13	.04	.06			.31												T.	.32	.02	.02	.16	T.				1.55
Mineral Hill	Pecos								.65	.04														*	1.28						.12	2.09
Monterey	Rio Grande	.01		T.	T.	.10		.06	.16														.07	.19	T.	.15	.35	.08			.07	1.24
Moriarty	do			.10	.44				.15																.27	.65	.25					1.86
Mountainair (near)	do	.47		.14	.03	.07							T.	T.									.31	.20	.21	.57	.09					2.09
Mountain Park	do	.21			.10	.26	.36	.05	.24	.09		.45													.06	T.	.54	.07	.03				2.46
Newman	do				.30	.20	.25																		.10							0.85
Nogal (near)	Pecos	T.	T.	.60	.39	.32	.35	.14	.24	.02													.16	.46	.17	.10	.13	.58				3.66
Noria	do				.05	.32		T.	.06																.35							0.78
Orogrande	do			T.	1.00	.08	T.	.20																	T.	.10	T.					1.38
Oscura	do				.05	.03		.10	.15														.11	.58	.36	.26		.48				2.12
Otis	do			T.	1.20	.47		.22	.11	T.		.24												T.	T.	T.	.32	.22				2.78
Pastura	do		T.		.19				.45	.06			.12												.07	.70	T.	.09				1.68
Plainview (near)	do	.07	.25	1.81	.88	T.	.08	.85		.04	T.	.27			.66									T.		.40	.45	.60				6.36
Red River Canyon	Rio Grande						T.		.30						.40	.20								.60	.40	.30	.20					2.40
Richland	Pecos			.25								.16															.40	1.02			.82	2.65
Rincon	Rio Grande				1.11		T.		.25														T.		T.	T.	.13					1.49
Rio Grande Dam	do				.15	.10		.03															.03	.06	T.	.03	.06					0.46
Rio Grande Industrial School.	do		.04	.30			.35	.03	.02														T.	.11	.04	.09						0.98
Rosedale	do				T.		.10		.40														.25		.10	.28						1.13
Roswell	Pecos		.11		.32	.01					.52						.01							T.		.88	.45				.37	2.67
San Marcial	Rio Grande																															
San Rafael	do				.28	.15		.10	.40													T.	.15	.15		.15						1.38
Santa Fe	do			.01	.05			.06	.23		.10	.10	T.										.42	.36		.21	T.	T.			T.	1.54
Santa Fe Canyon	do			T.	.09			T.	.45		.11	.01	.03										.10	.68	.04	.27	T.	.09			T.	1.87
Santa Rosa	Pecos							.01	.20	.24							.02							.04	T.	.91		.05				1.47
Senorito (near)	Rio Grande			.07	.19		.06		.21		.05	.40	.05										*	1.30		.50		.02				2.85
Socorro	do			.06	.04	.06		.07																.10	.05	.10						0.48
Stanley	do			.48	.29			.57																		.73						2.07
Tajique (near)	do	.02		.03	.29	.05	T.	.07	.30				T.										.66	.83		.48						2.73
Taos	do								.51		.07	.03											.87	.32		.02		.06				1.88
Taos Canyon	do			T.	.08		T.	T.	.11	T.	.69	.11	.03				.02						1.08	.83		.04	.04	.16				3.19
Tecolote	do			.19	.16	.05		.52	.10														.05	T.	.12	.27	.04					1.50
Three Rivers	do							.40	.03															.30	.85	.15	.05	.23				2.01
Tijeras Canyon	do	T.	.03	.04	.16	.46	.02		.28	.21						T.								.20	.41	.10	.22	.02					2.24
Torrance	Pecos								.55																.28	*	1.38	.20				2.41

TABLE 2.—*Daily precipitation for September, 1913. District No. 8*—Continued.

Stations.	Watershed.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
New Mexico—Contd.																																
Tres Piedras	Rio Grande	.04										.02												.75		.48						1.29
Truchas	do			.21	.02	.19	.09		.01		.02							.06					.10	1.50	.22	.16	.19	.05				2.82
Tularosa	do																															
Vaughn	Pecos							1.32	.15																	.90						2.37
Virsylvia	Rio Grande	.07					.04	.02	.09		.10					.21	.11						.59	.14	.11	.13	.17				.02	1.80
Willard	do	.06		.02	.09	T.		.03	.14														.03	.35	.65		.19					1.56
Winsors	Pecos				.06	.01		.03	.14	.08	.02	.01											.08	.82	.14	.29	.08	.08			.15	1.99
Texas.																																
Abilene	Brazos		.02			T.	T.			.02	.01	1.07	.22											T.	.65	2.27	.08	.08				4.42
Albany	do								20	.20		.93	1.15													1.87	.10	.11				4.56
Alice	Coast									.20			1.05	.05				.20	.80	.02						2.90	2.70	.15				8.07
Alpine	Pecos				.30	.70		.85					.30															1.20				3.35
Alvin	Coast							.36		.42	.39	.46	.98					1.01			T.			T.	T.	.03	T.		T.	.02	3.67
Anahuac	do		.62	1.33		.09	.24	1.03	.05	.78	2.48	1.03	3.38	.28				.42						.41		4.10	.04	1.13	.24	1.24	18.48
Angleton	do	T.					T.		.20	1.37	.55	T.	1.63	.14	T.			.43			38			.32	1.41	3.21	.56	.10			10.71
Antelope	Trinity									.08	.40	.56				T.								1.92	.54	.06						3.56
Aspermont	Brazos		.27									.68													1.40	.28	.27					2.90
Austin	Colorado		.02	.11					T.	.32	1.78	.37	.51	.01				.25			T.			T.	1.54	T.	T.				.77	5.68
Ballinger	do			.10					.35			1.55	.60												.50	.50	.10					3.70
Barstow	Pecos				.20			T.				1.60												1.36	.80	.70	.10					4.70
Bay City	Colorado		.10	.15			.06	1.84	.45	2.01	.02	T.	2.06	T.				.77	.58						.41	2.57	.12			.68	11.82
Beaumont	Neches						.85	.30	.90	.40	.30	.50	.70	.72			.27	.38							3.23	.76	6.02		.88	.12	16.33
Beeville	Coast		T.	.02	.10	T.			.90	.64	.61	.17	.06	.57	T.			1.08	1.75			.16			1.40	5.25	.35				13.06
Big Spring	Colorado	1.02	T.	T.					.02	.04			T.										T.		.42	.92	.30				2.72
Blanco	Guadalupe							T.	1.42	.29	3.90	.74	.07					20	.20						.06	.65	.07	.02			7.62
Boerne	San Antonio			.28			.20	.20		1.80	2.18	.40	.03					25							.06	.23	.01					5.64
Booth	Brazos				.15				1.30		.60	.05	1.50	.64	.05			35	.55			.10				.20	1.50	.38	.10			7.47
Bowie	Trinity							.68		17	.06	.38	.25	T.	.18	.01	.03								1.47	1.17	.05	.26			4.71
Brazoria	Brazos	.14	.02				.10	T.	.65	1.14	.15	1.70	.28	.01				.75	.02		.04			.03	.29	1.95	1.05	.30	.07		8.69
Brazos	do									.11	.58		1.26	.21				.20							.56	1.27	.16	.08			4.43
Brenham	do	T.			T.							.14	.99	.20	.08	T.		T.	.29		T.				.02	1.73	.55	T.			4.00
Bridgeport	Trinity						.05				.48		1.20	.20	.02	.05										.96	.60	.15	.19		3.90
Brighton	Coast			.25					.10	.06	.09	.20	.69	1.69					1.66						4.42	4.26	.15				13.57
Brownsville	Rio Grande		.10	.02					.06	.48	.02	.60	.18	.12			.02	3.14	.10		.40			.20	5.76	1.50	.80			.12	.76	14.38
Brownwood	Colorado											.30	2.30	.12												.15	.05				2.92
Bryan	Brazos		.43					.63		.90	T.	T.	.17	.25	T.			.12								.95	.26	T.			2.20	5.91
Buena Vista	Pecos	.04	T.	T.	.80			.72	.18	T.		1.28														.25	.33	1.25				4.85
Cameron	Brazos		.07	.05						.12		.14	.28	.08			.08	.01							1.47	.11					1.27	3.68
Carmona	Neches		.15	.13			.36	1.17	.04	1.05	.61		.43	.06	.23	.06		.34	T.		.13				T.	3.60	.40	.27			.30	9.33
Carrizo Springs	Nueces		T.		.50					2.60	T.						.25	.25						T.	T.	T.				.60	4.20
Claytonville	Brazos	T.	.13								19	T.	.69										.07	2.05	.15	T.					3.28
Cleburne	do			.81					.44	.61	.67	.14	.26	.40	.05										3.22	.03	.09				6.72
Clifton	do								.34	.05	.43	.67	1.63	1.16	.32	T.		.05							3.05	.12	.27	.01			8.10
Coleman	Colorado				T.						1.19	T.	.10												.60	.10	.12				2.11
Collegeport	Coast																														
College Station	Brazos		.04	.02	T.			28		.46	.01	T.	T.	.31	.04	.02		.08			T.				.30	.64	.21			.74	3.15
Colorado	Colorado	.04	.40					.52			1.35	.15											1.44		.10						4.00
Columbus	do		.18		T.				T.	.06	2.05	.08	1.98	.46	T.	T.		.14	.80						.25	1.85	.70			T.	11.55
Comanche	Brazos		T.				T.	T.		.23	T.		.30											T.	T.	.11	T.			.40	1.04
Corpus Christi	Coast	.02	.03	.07					T.	T.	.07	1.55	1.09	T.			.05	1.84	T.		T.			T.	4.17	.28				T.	9.17
Corsicana	Trinity							.34	.08		.15	.10	.40	.98	.23	.05									.85	2.45	.30	.05				5.98
Cotulla	Nueces									.10	.80	.30						2.80						1.00	1.30							6.30
Crockett	Trinity			.09		.25		T.	.16	.50	.08	.12	.71	3.36	.20			.13			.07					1.73	.84				.32	8.56
Cuero	Guadalupe		.16		.02			.10	.11	T.			.30	.04	T.			1.33	1.91						.81	4.86	.30				9.94
Dallas	Trinity								1.38	.04	.46	.14	.48	.78	1.10	.14									.82	1.33	.18	.31				7.16
Danevang	Coast									2.05		1.25	.85					1.85							2.95					.75		9.70
Del Rio	Rio Grande		.14						.24	.14		.09				.03		.31							.58	.04	.02					1.59
Denton	Trinity						T.	.20		.38	.03	.10	1.40	.09	.54	.04	T.	.05							1.56	.04	.15					4.58
Devine	Nueces			.12					T.	T.	T.	1.80	.10				T.	.75							.40							3.57
Dialville	Neches	.24	.23	T.	.31			2.35		.08	.30	.06	3.15	1.25	.75	.03		.05			.53			T.	.40	.05	1.45	.75			.18	11.76
Dilley	Nueces										1.25	1.75	.50					2.75						.60	.50					.25	7.60
Dublin	Brazos	T.						.02			.20	.26	.51	.06											.14	.42	.07					1.68
Duval	Colorado	T.	T.	T.						.08	.94	.48	.36	.04				.15							3.01	T.	T.				.52	5.58
Eagle Pass	Rio Grande		T.	.10	T.			.03	.14	T.	.03	.18						.48						.03	.71							1.70
Eastland	Brazos										T.	.50	1.40	.10											.60	.10	T.				2.70
Edna	Lavaca		.57	.01					27				.92					3.05	.28						3.20	1.68				.68	10.66
El Paso	Rio Grande			T.	.01	.37	T.															T.		.12	.10						0.60
Encinal	Nueces																														
Fairland	Colorado	T.	T.	T.	T.	T.	T.	T.	.12	.22	T.	3.33	.18	T.				22						.01	.82	.01	.01			11	5.03
Falfurrias	Coast			T.				2.19	.36	.39	T.	.34	.13			T.		60						20	1.70	.22				04	6.17
Flatonia	Guadalupe	T.	.25	.10				.20	.50		.15	1.25	.01			T.		.71			24			.76	1.00	.05				39	5.61
Flint	Neches					.17	.02	1.53	.04		.76	.11	*	9.07		T.					31					.30	.50	.59	.01			13.41
Fort Clark	Rio Grande				.50				1.20	.40	.10	T.																			2.20
Fort Davis	Pecos	.17			1.31	.73		.30				.09		.24												.40	1.01					4.25
Fort McIntosh	Rio Grande							.28	.35		.50	.15						.25						1.40	2.80	.20					5.93
Fort Stockton	Pecos	.55	T.	.07	.30		.16	.70	T.			.55	.16										T.	T.	.60	.20	1.10				4.39
Fort Worth	Trinity			T.		T.	T.	.06	T.	1.05	.05	2.50	.16	.34	.47	.04	T.							T.	2.27	.18	.17				7.29
Fowlerton	Nueces											.25	.43					1.00						1.10	.10					.90	3.78
Fredricksburg	Colorado		.11	.10					.04	.79	T.	.21	.19	.11				24						.07	.53	.03				.64	3.06
Gail	do				.40																			1.00	.40	1.00	.50				3.30
Gainesville	Trinity						1.02	.06				.13	1.16		.39										2.05	.31	.09	.07			5.28
Galveston	Coast	T.	.98	T.	T.				.13	.38	7.14	.54	3.03	T.			T.	.98	.01		.01			T.	.64	3.89	.54	.19	.18	.04	18.68
Garden City	Colorado	.24	T.					.02	.15	.15	T.	.62	.60												1.27	.33	T.				3.38
Gatesville	Brazos		.15							.87	.35	1.25	.20	.10											2.50						5.42
Georgetown	do									.25	T.	1.70	.07	.13	.01			.11	.06						.07	2.33	.05	T.			4.78
Goliad	San Antonio									.18		.05						4.30			.08				4.60	2.70				.25	12.16
Gonzales	Guadalupe	.70			.03			1.37		.25			.16					.26	.87						.10	2.60	.07				6.41
Goree	Brazos			.10				T.	.28	T.	.86													1.96	.26	.18	.02				3.66
Gorham	do			T.						1.65	2.00	.97	.12	.07										T.	3.50	.18	.04			.20	8.73
Graham	do						2.60		.08	.16	.52	T.													1.76	.11					2.63
Grand Falls	Pecos			.56	.17		1.20				.71													T.	.94	.15	.60				4.33
Grand Saline	Sabine					T.	.55		.45	.80		.87	3.00	1.26					.20				T.	.62	.12	T.	.33				8.20
Grapevine	Trinity					T.	T.	.13	T.	.52	.13	.95	2.23	1.15											2.60		.37				8.08
Greenville	Sabine						2.60			.50		.40	1.50	1.55	.10										.95	.45	.10	T.			8.15
Hallettsville	Lavaca		.46	T.			.68	.78	T.	T.	.18	.17	T.	T.			1.66	.47		T.					1.60	1.90				.50	8.40
Hamlin	Brazos										.40	.75													.75	.45					2.35
Harlingen	Coast				14				.04		.03	.07	1.20				18	.13	.02		.41				.46	4.53	.25		.02	.95	8.43
Harper	Colorado			.25	.56	.15	.05	1.02	.31	.19	.28					.10	.80	.05											.50	2.50	6.76
Haskell	Brazos								.42	.80		.43													.98	.41	.01				3.05
Hayflat	Pecos								.20	.30															.40	.80					1.70
Hebbronville	Coast			.25					.10		.30	.60						.20						9.00	.08	.08			.80		11.41

TABLE 2.—*Daily precipitation for September, 1913. District No. 8*—Continued.

Stations.	Watershed.	Day of month.																											Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Texas—Continued.																																
Hempstead ‖	Brazos												1.10	1.80	T.				.60							T.	2.70	.96	T.			7.16
Henderson	Neches					.32		1.06		.34	.48	.02	3.06	3.02	.15	.02	.02				.32					T.	3.00	.08				11.89
Hewitt	Brazos		T.	T.				T.		.56	.34	T.	.94	.22	.08										T.	6.10	.02	.14				8.40
Hico	....do										.21	.96	.30	.12												1.57					3.16
Hillsboro	....do		.85							.52	.26	3.50	3.10	.27	.05										.40	2.90	.30				1.10	13.25
Hondo ‖	Nueces									.40	T.	.55	.75					.20	.25							.06					.40	2.61
Houston	Coast	.01	T.	.12	T.			4.55	.02	.56	.20	T.	.57	.06	.02			.49	.02		.02					.30	.88	2.62	.38	T.	2.55	13.37
Huntsville ‖	Trinity								2.12		.42		.13	1.91	.12	T.		T.	.16		T.					.73	1.42	.15				7.16
Jayton	Brazos								.30		.10														1.00		.80	T.				2.20
Jewett ‖	Trinity			T.					.10	.55	.25	.95	.45	2.75	.63	T.											.70	.70	T.		T.	7.08
Junction	Colorado																															
Kaufman	Trinity						1.69	.16	.11	.19	T.	1.39	.75	.44				.13								1.53	.16	.27				6.82
Kerrville ‖	Guadalupe			.07	.05			.19	.08			.65	.32	.06				.32	.21								.10	T.				2.05
Knickerbocker	Colorado			T.	T.		T.		T.	.10	T.	.05	T.													.36	.16	.06				0.73
Kopperl ‖	Brazos										.70	.10	.35	.36	T.	.30		T.								1.80	1.30	.25	.30			5.46
Lagrange	Colorado				.27				2.26	.09	.03	.10	.43	.02				.47	.05		.02						2.48	.02			.04	6.28
Lamesa	....do	1.24	.10	.08						.15	1.02	.15													.56	1.50					4.80
Lampasas ‖	Brazos			.11	T.					.02	3.52	.38	.20	.88	.06		.09									.10	1.19	T.				6.55
La Parra	Coast			1.60						.30			.75				.35	.85	.35						.35	1.35	.15					6.05
Laredo ‖	Rio Grande																															
Laureles Ranch	Coast																															
Liberty ‖	Trinity			.30	.09	.19			.91	T.	.23	1.09	.37	.53	.07	T.		.16	.31							T.	3.30	T.	.88	.06		8.49
Llano ‖	Colorado			.07			T.				.02	.20	.19	.13				.04							T.	T.	.40	.02				1.07
Llano Grande ‖	Rio Grande	T.		T.			T.		T.		T.	T.	.42				1.43	T.			.20				1.06	1.00	.13		.15	T.	4.39
Long Lake ‖	Trinity								.80	.15	.20	.20	.80	3.00	.80	.15	T.	T.	T.			.20					.50	.80				7.60
Longview ‖	Sabine								1.10			1.77	.57	3.18	2.47	.18	.10				.60						.90	.89	.20			11.96
Lubbock	Brazos	.15			.17				.17	.01	T.	1.13	.16											.01	.02	.16	.89	1.32	T.			4.19
Lufkin	Neches	2.14	2.00			T.		.33	.27	.98	.68		.33	.55	.15	.01		.17			.33					2.51	.55	.61		.39	12.00
Luling ‖	Guadalupe	.45		.02	.36				.52		.66	.46	2.20	.17	.02			.15	.55							.08	.91	.02				6.57
Lyford	Coast																															
McGregor	Brazos							.75	.25		.10	1.25	.20													3.90	.18					6.63
McKinney	Trinity						1.24	.17	.06	.02	T.	1.03	.48	.91	.03	T.	T.				T.					2.45	.06	.08	.01			6.54
Marathon	Rio Grande	.55		.25	.30	T.	.10	.25		.25	.40		T.													1.27		.93				4.30
Marble Falls ‖	Colorado		T.	T.						2.00	4.00	2.20	T.					.20	.05					T.	.03		T.				8.48
Marfa	Rio Grande			.50	.30	1.00	.30	.50		.30	.20																	1.10			4.20
Marshall	Sabine						.30	.48	.06		.60	1.00	.58	3.73	1.50	.05			.04		.38						1.84	1.25	1.73			13.63
Matagorda	Coast									.11		1.70	4.78					1.49			.77				.09	5.96	1.88	.74				17.52
Mexia ‖	Brazos				T.		T.	T.	T.	.03		T.	.06	2.73	.22	.07		.01									1.36	.36	.03			4.87
Midland	Colorado	1.00	T.									.58													1.10	.60	.50	.90				4.68
Mission ‖	Rio Grande																															
Mont Belvieu	Coast	.21		.13		.18	.06		.56	.19	1.82	.40	1.23					.53	.03		T.				T.	.03	1.77	.01	.59	.06	1.98	9.75
Montell	Nueces		T.						.66	.57	.07	.02	.16				.03	.10							.03						.66	2.30
Mount Blanco	Brazos	.56			.48																				.85	T.		1.77				3.66
Nacogdoches ‖	Neches				T.		.50		.51	.11	.52	.80	1.28	1.70	.91	.10	T.	T.	.17		1.08						1.12	2.11	.96	T.		11.87
New Braunfels	Guadalupe	.25	T.					T.	.66	.32	.23	.66	.43					.20			.09				.19	.63					1.00	4.66
Palestine	Trinity	T.	.03			.07		.10	T.	.06	.15	.10	2.56	1.37	.03	.02	T.	.02			.19					.19	.59	.15			1.01	6.64
Panter	Brazos				.09		T.	T.		.10	T.	.88	.07	T.	.10	.04								T.	T.	2.00	.12				.25	3.65
Pearsall	Nueces		.03								.33	.16					1.57	.85						T.	.31	.17					.08	3.50
Pierce ‖	Colorado	.08	.03	.01	.04				.13		2.06		.98	.91	.03			.38	1.14							.08	1.86	.07				.07	7.87
Plainview	Brazos	.16		.47	.29				.07	.21		.22													.12	.27	.40	1.12				3.33
Port Arthur	Coast					1.50			.04	1.00	1.00	1.50	8.50	2.50													2.30		2.00	1.55	.70	22.59
Port Lavaca	....do	T.								1.25		1.73	2.18	1.43				.38		.48	.07				T.	3.53	2.98	1.87	.07	T.	.54	16.51
Post	Brazos					T.		.20			.78	.05													.23	.88	1.30	.04				3.48
Putnam	....do									.25		.97	.08													1.90	1.45					4.65
Raymondville ‖	Coast			.01	T.					.02		.37	.01	.89				.03	.67			1.02				.33	1.38	.51	.01		.08	5.33
Ricardo	....do	T.		.50	.50				.75	.33		.36	1.30	.09				.25	T.						T.	2.40	1.15				T.	7.63
Rio Grande ‖	Rio Grande													.30	.90				10							1.40	1.60	.30				4.60
Riverside ‖	Trinity			.25	.15		.60		.80	.40	.38	.20	T.	.55	T.	T.			.40		T.						1.50	2.65				7.88
Rockland ‖	Neches			.90				3.00	.70	.60	.60		T.	.90	1.50	T.			1.50							T.	T.	5.50	1.40	.30		16.90
Rockport	Coast	.03	.15	T.	.81						1.00	.40	3.10	T.				2.80			12					*	9.00				T.	17.41
Rossville	Nueces			T.	.50	.09				.05	.16	1.71	.30					1.22							1.12	.88	.05				1.30	7.38
Runge	San Antonio			.68				1.00	.61	.39								3.04								T.	3.94				1.26	10.93
Sabinal	Nueces						.16			.28	.32	.30	.04					.14							.14	.04					.36	1.79
Salado	Brazos											.50	.20	1.20	.19	.04										2.26	.10					4.49
San Angelo	Colorado			.30		.63																			.53	.11		T.	T.			1.57
San Antonio	San Antonio		.25	.47			.14	T.	.73	1.75	.17	1.24	.34				T.	.22	T.		.01				1.14	.41					34	7.21
San Augustine	Neches		.01	.04				T.	T.		.58	.02	.03	4.61	.10	.04		.17			1.20					.09	6.45	.41	.34		.05	14.14
San Juanito	Coast					.29			1.83		.04	1.03	.82	.05			.04	T.	.05		.50				.24	.81	.26				.05	6.01
San Marcos ‖	Guadalupe								.42	.25		.50							.26		.07						.90					2.40
San Saba	Colorado		T.								.16	.01	.94	.02												.28	.02	.16			.48	2.07
Santa Anna	....do										1.10	1.00													.65			.06				2.81
Santa Gertrudes ‖	Coast			.50							.10	1.25	.90						.63							1.95	1.41					6.74
Sealy	Brazos		.07					.86				.05	1.90	.27				1.08	.07		T.					.66	2.09	.08			.47	7.60
Seymour	....do										.05	.65	.60													3.10	.10	.13				4.63
Snyder ‖	Colorado		.11	.07	.01			.21	.02	.01	.18	.02	.33													.80	.24	.44	T.			2.44
Somerville	Brazos			1.60							T.	1.20	.15	.60				T.								.50	.75	T.			.60	5.40
Sonora	Rio Grande		.40								.10	.80																.12				1.42
Spur ‖	Brazos	T.	2.18	T.	T.	T.		T.	T.		.23	T.	.23					.04								1.60	.75	1.03	.08			6.14
Stamford	....do		.75								T.	.18	.23													2.27	.29					3.72
Sugarland ‖	....do	.02						.56		.51		.44	2.32					.78			.09				.13	.88	.26	.23			.52	6.74
Sutherland Springs	San Antonio						.18	.30	.50			1.60						1.00								.64						4.22
Tahoka	Brazos	.61		.14				.02	.03	.43	.05	.05	T.												T.	.72	1.85	.05	.06			4.01
Taylor	....do	T.		.04			.54	T.		.80	.20	.22	.01	.01				.07			.02				T.	1.10	T.	.04			.83	3.88
Temple ‖	....do	.55					T.	.20		.15	.50		1.50	.70	.15	T.		.15								.70	1.80	.05	T.		.10	6.55
Thurber	....do											.09	2.49													.40	.35	.17				3.50
Tivoli	Guadalupe	.50						1.90	.15	.06	1.55	.45	.42				2.00	3.95							1.13	6.07	.45				.38	19.01
Troupe	Neches					.16	.07	.15	.05	.13	.39		1.25	5.30	.65	.05		T.			.11					.02	1.04	.78	.04				10.19
Uvalde	Nueces				T.				3.00	1.30		.20						.10							T.						.20	4.80
Valley Junction ‖	Brazos			.40	.20				.80		.18		1.00	.65	.27												.90					4.40
Victoria ‖	Guadalupe									1.36		1.52	1.00					4.75								7.40					.45	16.48
Waco ‖	Brazos										.14	T.	4.80	1.18	.26	T.										1.95	2.84	T.				11.17
Waxahachie ‖	Trinity				T.		.01	.08	.03	T.	.27	.73	.31	1.20	.40	.07	T.		.04							.20	2.13	.07	.10			5.64
Weatherford ‖	....do								T.		.07	.11	1.04	.34	.18	.05		T.	.04							.35	.95	.10	.06			3.29
Wills Point	Sabine							.56	T.	T.	T.	.83	.90	1.48	1.00	T.	T.				T.					1.04	.18	.15	T.			6.14
Winters	Colorado									.20	.50	1.30													1.20	2.92						6.12

* Precipitation included in that of the next measurement.
‡ Separate dates of falls not recorded.
‖ Precipitation for the 24 hours ending on the morning when it is measured.
T Precipitation is less than 0.01 inch rain or melted snow.

TABLE 3.—*Maximum and minimum temperatures for September, 1913. District No. 8, Texas and Rio Grande Valley.*

Date.	Colorado.				New Mexico.														Texas.							
	Garnett.		San Luis.		Agricultural College.		Carlsbad.		Fort Stanton.		Mountain Air.		Rosedale.		Roswell.		Santa Fe.		Santa Rosa.		Abilene.		Big Spring.		Brownsville.		Corpus Christi.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1....	78	41	74	47	90	65	96	61	82	49	84	52	78	52	91	62	73	52	88	57	94	73	99	66	95	76	88	79
2....	78	42	74	41	81	63	97	62	85	50	79	47	78	48	90	62	76	50	91	56	91	74	90	66	93	73	88	78
3....	76	39	75	46	78	56	90	60	82	47	82	42	76	48	83	61	78	58	84	58	93	72	89	69	89	72	87	76
4....	78	43	73	45	76	56	88	58	71	42	68	52	72	50	75	61	68	55	81	60	94	69	90	66	92	71	90	74
5....	76	43	78	38	75	61	89	59	56	40	72	52	70	50	79	59	71	54	84	52	97	68	97	67	93	70	90	73
6....	77	44	77	43	81	56	85	62	63	45	70	54	68	48	82	59	71	50	86	52	98	72	97	67	97	69	92	73
7....	76	45	77	40	83	57	86	59	72	60	74	52	63	48	84	63	70	54	87	54	98	71	98	70	98	74	92	76
8....	74	47	74	41	82	63	89	63	75	49	78	56	70	48	86	63	70	54	83	57	89	69	90	68	91	73	87	75
9....	75	42	71	39	87	62	88	63	74	46	74	50	72	48	83	59	73	53	84	55	87	70	88	69	88	69	88	76
10....	78	39	72	36	88	57	90	61	80	47	76	48	78	50	86	60	79	52	84	58	86	69	92	65	90	72	83	76
11....	73	35	71	38	86	60	89	60	76	48	78	46	71	49	79	58	75	48	81	55	79	68	86	61	92	71	81	74
12....	74	36	71	37	82	56	79	61	72	48	78	45	70	45	74	52	68	46	76	52	71	62	78	64	90	71	88	73
13....	74	33	69	29	77	45	79	48	76	32	76	32	72	38	76	43	70	38	77	39	75	59	78	56	82	70	75	69
14....	73	39	70	33	83	40	88	51	76	37	79	40	76	42	81	46	74	44	87	43	78	53	80	56	87	64	83	65
15....	75	38	71	36	87	41	84	45	78	40	88	54	77	46	77	49	73	50	79	53	74	58	84	49	93	64	82	66
16....	72	41	63	39	88	45	89	45	85	37	80	48	82	48	86	50	73	49	77	50	84	56	85	56	91	65	83	71
17....	70	27	68	27	82	50	83	46	74	42	80	36	72	42	76	52	69	38	76	46	82	60	86	58	88	73	79	70
18....	78	28	74	34	87	49	88	49	80	39	82	46	80	45	85	51	77	46	90	45	86	57	89	52	85	74	84	71
19....	77	29	75	34	95	46	98	50	87	43	80	48	85	48	95	51	81	50	95	60	99	66	102	56	91	71	89	71
20....	79	25	70	24	80	54	95	52	76	38	78	36	72	40	72	50	68	39	77	43	76	56	94	58	94	72	88	72
21....	77	25	75	30	88	41	90	42	80	32	74	43	80	42	86	40	75	45	91	43	85	47	90	48	81	61	77	60
22....	67	42	67	41	87	48	93	46	82	39	66	52	68	50	82	55	60	45	78	62	89	63	92	57	85	56	80	59
23....	45	32	53	36	84	60	89	67	77	57	71	44	64	52	85	63	62	40	81	53	89	67	92	57	79	68	82	73
24....	47	30	51	30	66	57	85	61	77	50	72	48	64	42	73	53	57	38	73	47	86	61	90	56	89	72	81	75
25....	46	25	45	26	69	46	73	47	55	33	48	30	52	35	53	41	47	32	56	33	61	51	80	51	85	73	75	72
26....	50	25	50	34	53	44	49	45	45	32	44	31	48	30	47	41	51	33	48	39	55	48	52	45	80	71	74	66
27....	52	21	51	23	65	46	65	45	65	32	48	28	56	28	60	44	51	36	58	42	61	51	61	48	79	65	76	66
28....	55	29	55	29	77	37	82	38	72	32	70	37	71	32	78	38	64	36	71	42	76	50	76	42	83	68	80	67
29....	67	25	65	26	80	40	85	45	79	30	85	38	76	42	80	43	68	40	81	43	87	55	85	62	87	72	82	73
30....	70	25	68	29	88	45	86	49	77	32	78	38	75	42	82	47	71	47	82	42	85	61	85	52	86	76	82	77
Mns..	69.6	34.5	67.6	35.0	80.8	51.5	85.6	53.3	74.3	41.6	73.7	44.2	71.2	44.2	78.9	52.5	68.8	45.7	79.4	49.7	83.5	61.9	86.5	58.6	88.4	69.9	83.5	71.5

Date.	Texas.																									
	Del Rio.		El Paso.		Fort McIntosh.		Fort Stockton.		Fort Worth.		Galveston.		Hallettsville.		Houston.		Lufkin.		Palestine.		Plainview.		San Antonio.		Seymour.		Taylor.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1....	96	74	90	64	102	74	97	66	92	73	87	82	92	75	90	76	98	70	96	72	91	64	94	74	100	75	92	72
2....	93	73	83	63	100	74	94	67	94	73	85	71	88	74	89	74	98	68	94	71	90	60	88	73	100	75	92	70
3....	93	75	80	63	92	74	90	66	92	71	85	78	92	74	92	73	92	68	91	67	86	61	91	70	100	75	90	68
4....	92	73	82	63	100	74	87	65	97	69	91	77	92	72	95	71	92	68	96	71	88	60	92	69	100	72	92	66
5....	95	68	71	63	99	68	87	61	104	74	88	75	96	74	93	72	90	68	101	70	90	60	97	71	104	67	98	70
6....	99	69	79	62	102	78	85	60	102	77	88	80	97	77	97	72	93	67	97	70	93	60	98	75	103	66	99	67
7....	100	72	83	61	104	69	83	61	86	69	87	76	97	72	92	69	91	71	80	72	95	63	99	72	99	70	92	70
8....	97	72	82	66	93	69	80	63	87	70	84	74	84	71	85	71	90	70	86	69	87	62	90	67	95	70	86	68
9....	95	70	85	66	98	70	85	63	83	70	82	75	89	73	86	73	90	71	86	71	81	64	87	66	94	68	86	72
10....	91	70	88	63	97	70	90	60	81	72	80	70	87	73	80	72	85	72	83	71	84	61	90	73	90	68	85	70
11....	88	70	84	65	96	73	89	54	76	69	79	72	85	73	82	72	85	72	83	70	76	60	80	70	83	70	81	73
12....	82	70	80	61	96	70	76	53	72	65	79	70	87	73	81	72	82	70	76	68	72	54	83	69	73	62	80	67
13....	82	66	77	53	92	70	74	54	66	54	78	65	73	67	77	64	75	65	68	59	73	43	72	65	78	56	67	58
14....	88	58	82	51	91	61	82	47	61	54	68	62	74	61	67	62	65	60	61	57	80	39	83	63	76	54	71	57
15....	89	53	86	52	99	67	87	53	70	59	77	63	81	59	76	61	75	62	69	60	80	45	84	58	78	52	73	63
16....	83	66	88	56	97	58	87	50	76	67	83	74	87	65	83	66	84	65	78	64	84	49	84	64	87	57	82	62
17....	72	67	79	60	93	58	78	54	84	66	80	70	71	68	75	69	75	69	77	67	80	55	72	68	83	60	74	65
18....	87	64	86	58	93	58	89	52	83	61	82	71	85	69	85	67	87	60	81	65	87	46	91	63	89	60	87	60
19....	93	66	94	54	97	58	98	62	90	65	84	73	87	67	88	68	85	58	88	66	94	54	88	67	101	57	89	64
20....	86	63	76	60	97	53	89	58	80	49	85	69	80	74	81	63	76	59	73	61	78	47	81	63	87	58	78	57
21....	85	50	87	53	97	58	90	48	76	61	74	62	76	53	78	54	77	45	75	50	87	45	81	53	85	45	78	50
22....	86	57	87	58	91	54	97	58	85	57	80	65	81	52	82	62	84	47	80	53	91	52	82	54	93	44	82	54
23....	90	62	82	66	95	56	93	64	86	66	82	76	86	66	84	68	88	55	84	65	86	61	86	63	93	70	87	64
24....	84	71	71	56	93	56	94	66	81	65	81	76	86	58	82	66	84	60	83	63	87	58	80	68	87	68	83	65
25....	81	67	70	51	90	55	77	54	75	60	79	73	76	67	76	73	80	60	73	68	58	43	73	68	80	52	75	65
26....	68	55	54	49	90	56	57	44	63	54	76	72	72	68	76	70	74	66	68	64	52	40	71	62	60	47	67	60
27....	75	56	64	47	90	56	58	47	63	58	79	73	75	63	79	71	74	66	68	61	52	44	76	61	58	51	68	61
28....	84	56	78	44	88	56	79	43	74	57	79	70	77	65	82	68	75	65	76	63	77	40	84	60	76	47	77	60
29....	92	60	86	47	99	60	87	55	87	58	80	75	81	71	82	71	86	66	84	61	81	43	88	63	84	50	86	59
30....	89	68	90	56	92	75	89	59	83	63	84	77	82	73	80	72	87	65	83	66	83	49	86	71	83	53	78	70
Mns..	87.8	65.4	80.8	57.7	95.4	64.3	84.9	56.9	81.6	64.2	81.5	72.2	83.9	68.6	83.2	68.7	83.9	64.3	81.3	65.2	74.8	52.7	85.0	66.1	87.3	60.6	82.5	64.2

a, b, c, etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.

CLIMATOLOGICAL DATA FOR SEPTEMBER, 1913.

DISTRICT NO. 9, COLORADO VALLEY.

FREDERICK H. BRANDENBURG, District Editor.

GENERAL SUMMARY.

Weak and ill-defined low-pressure areas attended by showers were common in the Colorado Basin during the first half of the month, the conditions being similar to those usual in August. During this period a number of high-pressure areas of moderate intensity moved eastward from the Pacific Northwest and crossed the Continental Divide in the distant north, as is common at this time of the year. Their tracks were too remote, however, to exert a marked effect on temperature conditions, thus delaying the occurrence of damaging frosts and permitting the gathering of the greater part of the fruit crop in the central part of the district. The last decade was marked by the most important storm of the month. On the 21st a shallow barometric trough covered the western part of the Rocky Mountain Plateau. During the drift eastward it deepened, and on the morning of the 22d a well-defined low-center overlay Wyoming and, 12 hours later, western Kansas. Meanwhile a high-pressure area was in course of development in the Pacific Northwest. While its crest followed closely the track of its predecessors in the early part of the month, the magnitude of the anticyclone was such as to admit of a spreading southward before crossing the Continental Divide. Along this part of the advancing high-pressure thunderstorms were general on the 22d. Wind was destructive at Grand Junction, and considerable fruit was blown from the trees in the vicinity. Sharp falls in temperature, with killing frosts here and there, attended as far south as northeastern Arizona and the adjacent part of New Mexico, bringing to a close the growing season in much of the central part of the district. In the mountain districts a fall of snow was general on the 22d, 23d, or 24th.

In the greater part of the district mean temperatures were lower than the normal, the deficiency being marked in western Colorado and adjacent parts of New Mexico and Arizona. Precipitation was somewhat above the normal in the northern and central areas, but deficient on the watersheds of the Mimbres, Gila, and lower Colorado. Deficient rainfall has been a feature of the season in Arizona. Most of the crops in unirrigated sections have been a failure, and ranges have been in poor or only fair condition. In the irrigated districts the water supply has, in most cases, been sufficient. A heavy drain has been made on the water stored in Roosevelt Reservoir. Ranges are reported in satisfactory condition in the high districts of western Wyoming.

TEMPERATURE.

The monthly mean temperature was 64.2°, or 1.4° below the normal. The mean for September, 1912, was 60.6°. The highest monthly mean was 87.4° at Mohawk, Ariz., and the lowest, 42.9°, at Fraser, Colo. In the southern part of the district the first two days, which were cool, were followed by three weeks warmer than the normal. In the central and northern parts of the district during this period temperatures remained close to the normal. From the 22d, in the northern half, and the 23d, in the southern half of the district, temperatures were below the normal throughout the district, with marked deficiencies on the 23d, 24th, and 25th. The highest temperatures occurred during the first two decades, generally on the 4th and 5th in the northern, 10th and 11th and 19th and 20th in the southern areas. Readings of 100° or higher were noted at 30 stations in Arizona and at 1 in eastern Utah. The lowest temperatures occurred in the last decade. Freezing temperatures occurred in the different areas, except at the stations in southeastern Nevada. The highest temperature, 116°, occurred at Mohawk, Ariz., on the 20th, and the lowest, 6°, near Silverton, Colo., on the 24th.

Details of temperature are summarized in the following table:

Areas of States in district No. 9.	Temperature.					
	Mean.	Departure from normal.	Highest.	Station.	Lowest.	Station
Western Wyoming	51.8	+1.4	86	At 2 stations	8	Willow Creek Cabin.
Western Colorado	53.8	−1.9	93	Delta	6	Silverton (near).
Eastern Utah	59.7	± 0	101	St. George	17	Scofield.
Western New Mexico	60.9	−3.3	96	Deming	22	Luna.
Arizona	71.9	−1.3	116	Mohawk	19	Flagstaff No. 1.
Southeastern Nevada	71.4	+5.6	107	Logan	28	Caliente.

PRECIPITATION.

The average for the stations reporting was 1.45 inches, or 0.01 inch above the normal. The average for September, 1912, was 0.52 inch. Showers were general during the first half of the month, especially during the first decade. Precipitation was again general on the 22d, 23d, and 24th. In the extreme north and at high altitudes it was in the form of snow. Precipitation of an inch or more in 24 hours occurred at 5 stations in western Colorado, 6 in eastern Utah, 2 in western New Mexico, and 12 in Arizona. The greatest monthly amount was 5.51 inches at Spruce Lodge, Colo., while none occurred at Bluff, Utah, and Gila Bend, Mohawk, and Yuma, Ariz. Monthly snowfalls of 5 inches or more occurred at 1 station in western Wyoming, 12 in western Colorado, and 1 in eastern Utah. The maximum monthly fall was 19 inches at Spruce Lodge, Colo. The average

number of days with 0.01 inch or more precipitation was 7 in western Wyoming, 10 in western Colorado, 6 in eastern Utah, 7 in western New Mexico, 4 in Arizona, and 2 in southeastern Nevada. For the district as a whole the average was 6 days.

The average precipitation and departures from the normal on the different watersheds are given in the following table:

Watershed.

Green.		Grand.		San Juan.		Little Colorado.		Gila.		Mimbres.		Colorado proper.	
Average.	Departure.	Average.	Departure.	Average.	Departure.	Average.	Departure.	Average.	Departure.	Average.	Departure.	Average.	Departure.
1.40	+0.28	2.14	+0.67	2.50	+0.91	2.23	+0.32	1.08	−0.38	1.33	−0.42	0.96	−0.20

MISCELLANEOUS.

The average amount of sunshine in percentages, with departures from the normal, was as follows: Grand Junction, 66, −10; Durango, 66, −17; Phoenix, 94, +7; and Yuma, 96, +4.

The relative humidity reported was: Grand Junction, 52, +6 per cent; Durango, 63, +5; Phoenix, 36, ±0; and Yuma, 43, −3.

RIVERS.

Rainfall during the first decade in the upper reaches of the Colorado caused a rise in that stream, the maximum stage at Yuma, Ariz., 18 feet, being reached on the 16th. The discharge for the month was below the average for the last seven years.

Heavy local rains near Cave Creek, Ariz., caused some damage to irrigation ditches in Salt River Valley on the 1st.

TABLE 1.—*Climatological data for September, 1913. District No. 9, Colorado Valley.*

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Sky.				Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy days, with 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Wyoming.																				
Big Piney	Lincoln	6,800	....					29	21	....	1.05	.....	0.85	0.0	3	.....	.....	.....	w.	Ira Dodge.
Daniel	....do	6,740	14	47.9	+ 1.4	78	5†	15	25	52	2.10	+ 1.26	0.40	8.0	8	19	5	6	.....	J. M. VanDervort.
Eden	Sweetwater	6,577	4	52.6	.....	82[e]	5†	14[e]	25	55[e]	0.62	.....	0.20	0.2	6	9[e]	14[e]	4[e]	w.	Eden Val. L. & I. Co.
Green River	....do	6,083	8	60.8	.....	86[h]	5†	32[h]	20	48[h]	0.23	.....	0.11	T.	4	17	8	5	w.	Wm. Hutton.
Pinedale	Fremont	7,167	7	50.6	.....	78[j]	6	22[j]	22	50[j]	1.54	.....	0.47	4.0	7	10[j]	3[j]	7[j]	nw.	U. S. Forest Service.
Wamsutter	Sweetwater	6,702	....	53.6	.....	86	5	11	24	53	1.02	.....	0.48	T.	9	16	3	11	sw.	T. C. Sherman.
Willow Creek Cabin	Fremont	7,500	4	45.4	.....	78[l]	2	8[l]	25	47[l]	3.28	.....	0.61	11.0	9	12[l]	1[l]	8[l]	nw.	U. S. Forest Service.
Colorado.																				
Ashcroft	Pitkin	9,483	11	45.6	— 2.4	70	2†	18	24†	45	2.38	+ 0.41	0.53	.....	20	.....	.....	.....	.....	Dan McArthur.
Aspen	....do	7,931	....																	U. S. Forest Service.
Blue Valley Ranch	Grand	7,525	....	49.1	.....	76	3	18	20†	55	1.47	.....	0.26	0.1	11	13	5	12	se.	L. R. Hubbard.
Cascade	San Juan	8,900	6							....	3.93	.....	0.94	16.2	13	12	0	18	.....	The Western Colorado Power Co.
Cedaredge	Delta	6,175	15	58.2	— 2.0	81	3†	29	26	40	0.97	— 0.41	0.44	0	6	10	15	5	.....	Harry A. Cobbett.
Cochetopa	Saguache	9,088	4							....	1.93	.....	0.30	4.5	9	2	9	19	w.	Miss Bessie McDonough.
Collbran	Mesa	6,000	20	56.8	— 2.3	81	4	31	24	38	2.51	+ 1.10	0.76	0	10	17	8	5	sw.	A. A. Wood.
Columbine	Routt	8,766	3							....	0.56	.....	0.14	4.0	7	19	10	1	sw.	Mrs. M. A. Caron.
Columbine Ranch	Delta	6,925	3							....	2.85	.....	0.90	T.	7	8	11	11	s.	George W. Wade.
Cortez	Montezuma	6,100	2							....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. G. Cluces.
Crawford (near)	Montrose	6,600	3	55.2	.....	78	3†	26	24†	39	1.67	.....	0.92	0	13	11	16	3	.....	C. W. Roe.
Crested Butte	Gunnison	8,867	3	44.8	.....	75	7	12	24	52	2.17	.....	0.75	5.0	11	7	9	14	w.	Charles L. Ross.
Delta	Delta	4,965	23	61.8	— 0.8	93	1	28	26	55	0.86	— 0.02	0.70	0	4	17	7	6	.....	E. M. Getts.
Dillon	Summit	8,800	3	43.6	.....	73	6	13	26	48	2.03	.....	0.43	T.	18	10	7	13	n.	Mrs. Nannie B. Strong.
Durango	La Plata	6,534	18	56.2	— 2.0	81	19	29	24	44	2.40	+ 0.55	0.76	T.	13	8	16	6	nw.	U. S. Weather Bureau.
Eureka	San Juan	10,000	6							....	1.97	.....	0.80	9.0	6	10	9	11	s.	The Western Colorado Power Co.
Frazer	Grand	8,560	4	42.9	.....	70	6	10	25	54	3.57	.....	0.56	5.0	15	1	12	17	w.	L. D. C. Gaskill.
Fruita	Mesa	4,510	14	61.4	— 1.8	89	4	29	26†	49	1.25	+ 0.08	0.68	0	7	16	9	5	se.	J. B. Willsea.
Glade Park	....do	7,000	2							....	2.22	.....	0.85	0.5	7	16	12	2	sw.	A. F. Terrill.
Gladstone	San Juan	10,400	6							....	3.46	.....	0.91	14.3	16	7	3	20	ne.	The Western Colorado Power Co.
Glenwood Springs (near)	Garfield	5,823	15	58.2	— 0.3	85	2	26	19†	52	1.62	+ 0.19	0.35	0	9	18	9	3	w.	E. A. O'Neil.
Grand Junction	Mesa	4,602	22	63.5	— 2.9	86	12	37	23	37	1.70	+ 0.75	0.95	0	9	13	10	7	se.	U. S. Weather Bureau.
Grandlake	Grand	8,153	....							....	2.10	.....	0.85	3.0	6	8	12	10	w.	Mrs. Belle Kauffman.
Grand Valley	Garfield	5,089	21	61.4	— 1.0	89	4†	28	30	49	2.07	+ 0.73	0.64	0	11	11	12	7	.....	David Evans.
Gunnison	Gunnison	7,670	20	51.6	— 0.4	76	15	20	29	45	1.47	+ 0.72	0.58	T.	7	17	11	2	sw.	Clarence Adams.
Hayden	Routt	6,337	....	54.3	.....	80	4	22	26	49	1.87	.....	0.82	2.0	10	15	5	10	se.	A. W. Friederich.
Hesperus (near)	La Plata	7,610	1							....	2.64	.....	0.64	2.0	8	10	13	7	.....	G. F. Snyder.
Horsefly	Montrose	8,700	3							....	3.40	.....	0.60	2.0	9	18	3	9	ne.	Lawrence J. Finch.
Ironton	Ouray	10,000	3							....	3.04	.....	1.10	10.2	7	6	18	6	ne.	Mrs. Amanda E. Foley.
Lake City	Hinsdale	8,686	8	50.0	.....	79	9	18	24	44	1.79	.....	0.46	3.7	15	8	6	16	s.	J. F. Maurer.
Lay	Moffat	6,190	19	55.0	— 1.0	84	4	20	25	51	0.71	— 0.79	0.42	0	5	13	4	13	sw.	A. G. Wallihan.
Mancos	Montezuma	6,960	14	53.7	— 3.6	88	10	21	22	47	4.79	+ 3.28	1.35	2.0	10	11	11	8	s.	Miss Gertrude Rickner.
Marble	Gunnison	7,951	4	49.6	.....	77	4	20	26	50	2.61	.....	0.84	6.5	9	17	6	7	e.	F. E. Morse.
Marshall Pass	Saguache	10,846	10							....	1.23	+ 0.20	0.30	8.0	6	13	5	12	.....	Wm. L. Williams.
Meeker (near)	Rio Blanca	6,182	21	51.0[e]	— 4.4	78[e]	13	21[e]	26	49[e]	1.71	— 0.04	0.92	1.5	....	12[e]	5[e]	10[e]	sw.	T. Baker.
Montrose	Montrose	5,811	24	58.4	— 1.8	82	13†	30	24†	47	1.27	+ 0.24	0.55	0	8	18	10	2	.....	U. S. Reclamation Service.
Nast	Pitkin	7,953	3	47.2	.....	71	5†	20	26	46	2.46	.....	0.60	1.0	6	11	14	5	w.	Arthur Hanthorn.
Pagosa Springs	Archuleta	7,108	6	52.4	.....	82	3†	21	29	52	2.78	.....	0.67	2.8	15	10	15	5	sw.	E. T. Walker.
Palisades	Mesa	4,729	2	63.6	.....	91	12	31	27	49	1.39	.....	0.78	0	5	14	15	1	.....	E. P. Updegraff.
Paonia	Delta	5,694	18	60.5	— 1.2	87	4	30	26	41	1.27	— 0.06	0.80	0	7	7	22	1	sw.	J. M. Underwood.
Pitkin	Gunnison	9,500	4							....	1.32	.....	0.35	3.0	7	11	14	5	.....	Mrs. Maggie Cammann.
Redcliff	Eagle	8,695	20							....	3.45	+ 2.21	1.00	2.2	9	15	9	6	.....	Dorothea Greiner.
Redvale	Montrose	6,300	....	53.9	.....	80	2†	28	22†	38	1.10	.....	0.60	0	3	18	9	3	.....	Dr. E. S. C. Foster.
Rico	Dolores	8,824	11							....	4.31	+ 1.96	1.05	10.0	9	9	17	4	s.	Clinton B. Smith.
Rifle	Garfield	5,437	2	58.6	.....	85	12	30	26	47	1.74	.....	0.66	0	11	13	7	10	sw.	Herman Eiche.
River Portal	Montrose	6,570	7	58.8	.....	85	4	30	25†	46	2.32	.....	0.97	0	9	9	18	3	.....	U. S. Reclamation Service.
Sapinero (near)	Gunnison	8,125	10	48.8	— 2.2	72	21	22	26	46	2.77	+ 1.26	1.10	2.5	15	14	12	4	w.	W. F. Irving.
Shoshone	Garfield	6,110	3	61.0	.....	88	1	36	26	40	1.71	.....	0.58	0	11	10	9	11	.....	Central Colorado Power Co.
Silverton (near)	San Juan	9,400	6	45.0	.....	69	20†	6	24	47	3.30	.....	0.75	6.0	12	6	9	15	sw.	The Western Colo. Power Co.
Spruce Lodge	Grand	9,600	5							....	5.51	.....	0.63	19.0	18	9	6	15	n.	H. J. Wills.
Steamboat Springs	Routt	6,683	10	51.2	— 2.4	81	4	18	20†	58	3.01	+ 1.71	0.76	1.0	10	13	14	3	.....	Herbert B. Gee.
Tacoma	La Plata	7,300	6							....	3.18	.....	0.78	T.	10	6	13	11	n.	The Western Colo. Power Co.
Telluride	San Miguel	8,756	1	48.8	.....	76	4†	18	24	55	3.55	.....	1.25	9.1	14	11	11	8	nw.	David S. Painter.
Terminal Dam	La Plata	8,300	6							....	3.54	.....	0.52	5.0	13	9	15	6	sw.	The Western Colo. Power Co.
Yampa (near)	Routt	8,000	4							....	0.92	.....	0.35	T.	5	22	6	2	sw.	Wm. A. Charls.
Utah.																				
Bluff	San Juan	4,200	1	59.0	.....	85	5	30	23	39	0.00	.....	0.00	0	0	.....	.....	.....	.....	Herbert H. Redd.
Boneta	Wasatch	6,750	1							....	1.35	.....	0.24	2.0	9	.....	.....	.....	w.	Oscar Wilkins.
Canaan	Washington	5,000	1							....	2.96	.....	1.57	0	6	.....	.....	.....	.....	J. M. Lauritzen.
Castle Dale	Emery	5,500	14	56.5	— 2.3	85	6†	20	22	54	1.75	+ 0.78	0.40	0	7	18	12	0	.....	Miss Fay Jeffs.
Cisco	Grand	4,100	13							....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. I. Rounds.
Dragon	Uinta	6,000	3	58.0	.....	82	19	26	23	39	1.12	.....	0.68	.....	9	22	1	7	s.	Homer D. Ford.
Duchesne	Wasatch	5,500	6	57.2	.....	83	5†	26	23	44	1.38	.....	0.48	0	8	10	12	8	.....	M. M. Smith.
Elkhorn	Uinta	6,657	3							....	1.91	.....	0.36	4.0	11	12	16	2	.....	Forest Service.
Emery	Emery	6,200	12	59.5	+ 3.4	83	10	30	29	41	0.20	— 0.92	0.10	0	2	10	1	19	s.	H. C. Wickman.
Escalante	Garfield	5,700	10	58.5	— 1.5	90	16	28	20	49	0.90	— 0.40	0.60	0	3	23	0	7	.....	Geo. H. Barney.
Fort Duchesne	Uinta	4,941	25	64.4	+ 3.7	90	20	32	24	43	0.36	— 0.72	0.14	0	5	15[d]	7[d]	4[d]	w.	Geo. W. Dickson.
Fruitland	Wasatch	7,625	3	53.3	.....	81	3	23	26	46	2.59	.....	0.45	0	9	12	13	5	.....	J. E. L. Carey.
Grayson	San Juan	6,000	6	59.7	.....	84	1	27	24	30	1.42	.....	0.50	0	8	10	9	11	n.	E. F. Thompson.
Green River	Emery	4,080	13	64.8	— 0.9	92	5	29	24	50	0.63	— 0.24	0.39	0	5	14	16	0	sw.	Edgar E. Adams.
Hanksville	Wayne	4,200	2							....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. J. Weber.
Hite	Garfield	3,500	13	72.3	— 0.4	96	5	42	24	41	0.62	— 0.12	0.34	0	3	12	15	3	.....	John P. Hite.
Hurricane	Washington	3,800	1							....	0.90	.....	0.45	0	3	10	12	8	.....	Amos Workman.
Kanab	Kane	4,925	5	64.0	.....	91	13†	32	28†	47	1.54	.....	0.38	0	6	.....	.....	.....	.....	D. D. Rust.
La Sal	San Juan	7,000	10	55.0	.....	77	1	25	23	28	2.02	+ 0.85	0.44	.....	10	9[a]	10[a]	10[a]	.....	Gertrude W. Carpenter.
Leeds (near)	Washington	3,400	....	72.6[d]	.....	94[a]	12	41	24	32	0.75	.....	0.30	0	4	7	0	23	.....	B. F. Anderson.
Loa	Wayne	7,000	17							....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. E. Brown.
Manila	Uinta	6,225	3	54.2	.....	82	16†	19	26	55	0.86	.....	0.37	0	4	.....	.....	.....	.....	Daniel M. Nelson.
Moab	Grand	4,000	23	66.9	+ 0.9	94	5	34	26	51	1.78	+ 0.70	0.57	0	7	14	11	5	.....	Henry Crouse.
Monticello	San Juan	7,545	5																	Geo. F. Barton.

TABLE 1.—*Climatological data for September, 1913. District No. 9*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, with 0.01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Utah—Continued.																				
New Harmony	Washington	5,200	2	.....	.....	.....	.....	.....	.....	.....	2.44	.....	1.14	0	4	.....	.....	.....	.....	Geo. F. Prince.
Orderville	Kane	6,660	3	.....	.....	.....	.....	.....	.....	.....	3.64	.....	1.13	0	9	.....	.....	.....	.....	F. A. Porter.
Pine Valley	Washington	6,000	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mason Gardner.
Price	Carbon	5,557	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	George Mathis.
Ranch	Kane	6,700	11	54.4	− 0.3	82	5	25	26	46	1.70	− 0.39	0.79	0	4	20	8	2	.....	J. W. Seaman.
San Rafael	Emery	4,250	1	.....	.....	.....	.....	.....	.....	.....	0.22	.....	.....	0	2	18	3	9	se.	Jos. J. Nouguier.
St. George	Washington	2,880	26	70.5	− 0.7	101	12	35	24†	55	1.08	+ 0.50	0.54	0	5	17	12	1	.....	Wm. Goodspeed.
Scofield	Carbon	7,625	4	49.6	.....	81	1	17	26	53	2.89	.....	1.00	.....	13	16	0	14	s.	B. Newren.
Springdale	Washington	3,500	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hattie F. Wood.
Strawberry, East	Wasatch	7,650	1	48.0	.....	74	20	19	24	52	3.24	.....	1.04	7.0	9	17	5	8	w.	Reclamation Service.
Teasdale	Wayne	7,000	4	55.6	.....	90	12†	26	23	61	0.80	.....	0.80	0	1	14	7	9	w.	Henry Cullum.
Thompsons	Grand	5,150	2	63.2	.....	86	5†	33	24	36	1.36	.....	0.72	0	5	16	10	4	ne.	Mrs. A. M. Starmont.
Tropic	Garfield	7,000	16	55.7	− 2.0	82	19	30	24†	43	1.69	+ 0.31	0.54	0	4	6	18	6	sw.	E. P. Bolton.
Trout Creek Ranger	Uinta	9,200	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Forest Service.
Vernal	....do	5,050	16	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. E. Dillman.
Victor	Emery	5,250	1	.....	.....	.....	.....	.....	.....	.....	1.35	.....	0.44	0	5	.....	.....	.....	.....	F. F. Noyes.
White Rocks	Uinta	6,200	1	.....	.....	.....	.....	.....	.....	.....	0.54	.....	0.30	0	4	13	9	8	.....	E. C. Sims.
Woodside	Emery	4,645	2	60.6	.....	94	12	25	23†	40	0.35	.....	0.35	0	1	.....	.....	.....	.....	S. M. Miller.
New Mexico.																				
Alma	Socorro	4,800	15	63.6	− 3.4	95	19	29	30	55	1.33	− 0.55	0.31	0	10	12	15	3	s.	M. A. Balke.
Aragon	....do	5,856	6	57.6	.....	84	19	28	28†	46	1.72	.....	0.52	0	6	14	13	3	sw.	J. R. Milligan.
Aztec	San Juan	5,590	13	.....	.....	.....	.....	.....	.....	.....	1.08	+ 0.17	0.46	T.	6	10	16	4	sw.	Dr. T. J. Weast.
Bergers Ranch	McKinley	8,000	1	52.3	.....	79	3†	25	27	47	5.29	.....	0.95	0	11	12	6	12	e.	Herman Berger.
Blackrock	....do	6,500	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Patrick DesGeorges.
Bloomfield	San Juan	5,500	18	60.0	− 4.2	86	19†	32	21	54	1.58	+ 0.74	0.50	T.	7	12	15	3	sw.	F. LeClerc.
Cambray	Luna	4,215	14	.....	.....	.....	.....	.....	.....	.....	0.28	− 0.94	0.09	0	4	15	8	7	.....	Agent Southern Pacific Ry.
Cliff	Grant	4,470	13	68.0	− 2.3	95	19	28	27	55	0.95	− 0.79	0.40	0	4	25	5	0	se.	W. C. Belden.
Columbus	Luna	4,054	4	.....	.....	.....	.....	.....	.....	.....	0.20	.....	0.15	0	2	12	2	16	se.	Agt. E. P. & S. W. R. R.
Crystal	San Juan	7,400	.....	.....	.....	.....	.....	.....	.....	.....	3.43	.....	0.61	3.0	12	10	13	7	sw.	J. A. Molohan.
Deming	Luna	4,333	36	70.2	− 2.1	96	10†	40	12	50	0.77	− 0.60	0.30	0	3	26	1	3	w.	Agent Southern Pacific Ry.
Dulce	Rio Arriba	6,767	16	55.2	− 1.0	82	3	26	29	51	1.82	+ 0.15	0.59	0	6	19	8	3	sw.	E. O. Green.
Farmington	San Juan	5,400	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	O. Ricketts.
Fort Bayard	Grant	6,152	44	61.6	− 4.8	87	19	31	27	39	1.18	− 0.79	0.38	0	9	16	5	9	w.	U. S. Genl. Hospital.
Fruitland	San Juan	4,800	19	61.0	− 2.3	85	4†	32	24	49	1.42	+ 0.58	0.37	0	6	14	15	1	sw.	C. J. Collyer.
Gage	Luna	4,480	13	63.6	.....	91	9	33	26	37	1.77	+ 0.63	0.67	0	6	10	20	0	w.	Agent Southern Pacific Ry.
Gila Planting Station	Grant	6,475	2	60.2	.....	84	19	30	27	37	1.63	.....	0.41	0	9	18	5	7	w.	U. S. Forest Service.
G. O. S. Ranch	....do	8,000	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Victor Culberson.
Hachita	....do	4,504	4	.....	.....	.....	.....	.....	.....	.....	1.92	.....	0.79	0	6	9	15	6	e.	Agt. E. P. & S. W. Ry.
Haynes	Rio Arriba	6,600	2	57.0	.....	79	3†	29	28†	42	2.34	.....	0.90	T.	8	13	9	8	nw.	Mrs. O. L. Wingate.
Hermanes	Luna	4,451	4	.....	.....	.....	.....	.....	.....	.....	2.06	.....	0.75	0	5	24	1	5	w.	Agt. E. P. & S. W. Ry.
Lordsburg	Grant	4,245	3	66.8	− 7.0	91	19	36	28	44	1.70	+ 0.62	1.03	0	3	15	15	0	e.	J. H. McClure.
Luna	Socorro	7,300	12	54.6	− 2.5	84	19	22	27†	53	2.10	+ 0.30	0.43	0	8	10	20	0	w.	C. B. Martin.
Mimbres	Grant	5,007	8	.....	.....	.....	.....	.....	.....	.....	2.96	.....	0.78	0	6	18	8	4	.....	C. Dennis.
Pinos Altos (near)	....do	7,253	2	.....	.....	.....	.....	.....	.....	.....	4.69	.....	1.49	0	8	15	14	1	w.	O. L. Scott.
Pratt	....do	4,415	4	.....	.....	.....	.....	.....	.....	.....	0.63	.....	0.23	0	6	18	7	5	w.	Agt. E. P. & S. W. R. R.
Putnam	San Juan	6,200	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. F. Spader.
Redrock	Grant	4,150	8	.....	.....	.....	.....	.....	.....	.....	1.23	.....	0.38	0	8	12	14	4	.....	Robt. H. Woods.
Rodeo	....do	4,118	4	.....	.....	.....	.....	.....	.....	.....	2.37	.....	0.98	0	6	21	1	8	sw.	Agt. E. P. & S. W. Ry.
Silver City	....do	5,937	2	61.2	.....	83	16†	31	27	40	1.09	.....	0.30	0	10	19	9	2	se.	E. M. Brumback.
Arizona.																				
Allaires Ranch	Cochise	4,184	17	.....	.....	.....	.....	.....	.....	.....	1.33	+ 0.14	0.56	0	6	.....	.....	.....	.....	Thomas Allaire.
Alpine	Apache	8,500	4	52.0	.....	79	21	21	29	47	3.65	.....	0.78	T.	11	13	9	8	nw.	U. S. Forest Service.
Ashfork	Yavapai	5,229	2	.....	.....	.....	.....	.....	.....	.....	0.90	.....	0.50	0	2	17	10	3	.....	Do.
Aztec	Yuma	492	15	83.8	− 3.8	113	11	51	25	43	0.25	− 0.04	0.25	0	1	26	3	1	ne.	Agent Southern Pacific Ry.
Benson	Cochise	3,523	32	71.4	− 5.2	96	23	39	26	44	0.66	− 0.25	0.39	0	3	17	5	8	se.	Do.
Bernardino	....do	.....	1	.....	.....	.....	.....	.....	.....	.....	0.33	.....	0.21	0	2	13	6	11	n.	Operator E. P. & S. W. R. R.
Bisbee (1)	....do	5,350	23	.....	.....	.....	.....	.....	.....	.....	0.64	− 1.19	0.30	0	4	25	0	5	n.	Agent E. P. & S. W. R. R.
Blue	Greenlee	6,500	6	.....	.....	.....	.....	.....	.....	.....	2.10	.....	0.36	0	8	6	20	4	s.	Mary A. Jones.
Bonita	Graham	4,916	39	.....	.....	.....	.....	.....	.....	.....	0.98	− 0.62	0.85	0	3	15	9	6	s.	A. H. Jelley.
Bowie	Cochise	3,756	37	72.7	− 0.9	98	22	40	27	49	0.72	− 0.46	0.37	0	4	14	11	5	.....	Agent Southern Pacific Ry.
Buckeye	Maricopa	980	21	82.8	+ 2.3	108	11†	48	25	48	0.12	− 0.41	0.12	0	1	30	0	0	sw.	H. E. Kell.
Canille	Santa Cruz	5,225	4	.....	.....	.....	.....	.....	.....	.....	0.61	.....	0.36	0	6	10	20	0	sw.	Robert A. Rodgers.
Casa Grande	Pinal	1,396	32	.....	.....	.....	.....	.....	.....	.....	0.05	− 0.44	0.05	0	1	17	13	0	w.	Agent Southern Pacific Ry.
Casa Grande Ruins	....do	1,422	5	82.1	.....	106	10†	49	29	47	T.	.....	T.	0	0	21	7	2	w.	Frank Pinkley.
Cavecreek (near)	Maricopa	1,452	6	82.2	.....	107	11	50	24†	39	3.60	.....	2.85	0	3	22	3	5	sw.	John B. Lammers.
Chandler	....do	1,213	18	81.2	+ 0.1	109	11	48	25	42	0.41	− 0.16	0.23	0	4	28	2	0	nw.	F. V. N. Dana.
Chin Lee	Apache	6,090	5	53.4	.....	73	4†	32	24	34	1.13	.....	0.37	T.	7	2	15	13	n.	Rev. L. Ostermann, O. F. M.
Chlarsons Mill	Graham	8,000	6	57.9	.....	75	19	34	27	25	2.51	.....	0.53	0	8	2	27	1	.....	Hiram R. Chlarson.
Clifton	Greenlee	3,584	22	77.5	.....	100	21	46	29	42	0.62	− 0.94	0.30	0	5	19	11	0	.....	L. C. Kyhl.
Cline	Gila	2,300	13	74.6	− 0.8	101	12†	40	29	51	0.67	− 0.22	0.67	0	1	12	18	0	sw.	W. M. Clanton.
Cochise	Cochise	4,219	15	70.1	− 3.0	94	4	35	30	57	0.18	− 1.22	0.18	0	1	20	4	6	w.	Agent Southern Pacific Ry.
Columbia	Yavapai	1,900	13	80.8	− 0.9	101	17†	53	24	29	1.00	+ 0.51	0.50	0	3	26	3	1	e.	M. J. Nolan.
Cornville	....do	3,300	1	70.4	.....	95	11†	40	27†	43	0.55	.....	0.30	0	3	11	19	0	s.	N. F. Girdner.
Courtland	Cochise	4,543	4	.....	.....	.....	.....	.....	.....	.....	1.76	.....	0.55	0	6	14	15	1	sw.	Agent E. P. & S. W. R. R.
Don Luis	....do	5,020	1	.....	.....	.....	.....	.....	.....	.....	1.05	.....	0.45	0	5	18	9	3	ne.	Do.
Dos Cabezos	....do	5,250	5	63.3	.....	86	9	33	28	45	1.24	.....	0.42	0	6	17	13	0	e.	Neil Erickson.
Douglas	....do	3,930	10	67.8	− 4.3	96	9†	29	28	57	0.57	− 0.45	0.24	0	4	18	5	7	sw.	Dr. F. T. Wright.
Dudleyville	Pinal	2,204	22	69.8	− 6.7	94	11	40	28	44	0.54	− 0.72	0.34	0	4	15	12	3	sw.	George F. Cook.
Elgin	Santa Cruz	4,706	1	.....	.....	.....	.....	.....	.....	.....	1.13	.....	0.70	0	5	21	3	6	se.	Leonard W. Klene.
Fairbank	Cochise	3,862	4	.....	.....	.....	.....	.....	.....	.....	0.83	.....	0.25	0	6	17	6	7	sw.	Agent E. P. & S. W. R. R.
Flagstaff	Coconino	6,907	21	54.8	− 0.7	80	19†	27	27	41	1.89	− 0.20	0.47	T.	13	10	17	3	nw.	George T. Herrington.
Flagstaff (1)	....do	7,500	5	52.0	.....	80	20	19	27	49	1.87	.....	0.46	0	12	12	11	7	sw.	U. S. Forest Service.
Florence	Pinal	1,504	14	83.6	+ 2.7	109	11	48	24	41	0.65	− 0.09	0.65	0	1	12	18	0	s.	Agent Arizona Eastern R. R.
Fort Apache	Navajo	5,200	42	64.8	− 1.0	92	19	36	29†	48	0.60	− 1.00	0.20	0	8	24	3	3	nw.	Post Surgeon, U. S. Army.
Fort Huachuca	Cochise	5,100	28	72.7	+ 1.8	95	22	53	14	32	1.04	− 0.82	0.74	0	6	24	0	6	se.	Do.
Fort Mohave	Mohave	604	44	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	August F. Duclos.
Gila Bend	Maricopa	737	23	.....	.....	.....	.....	.....	.....	.....	0.00	− 0.23	0.00	0	0	30	0	0	w.	Agent Southern Pacific Ry.
Globe	Gila	3,625	11	73.7	− 6.5	95	10†	44	25	38	0.90	− 0.65	0.52	0	4	13	17	0	nw.	Dr. B. G. Fox.
Grand Canyon	Coconino	6,866	9	58.6	.....	82	2†	25	23	38	0.50	.....	0.50	T.	1	14	16	0	sw.	Agent Grand Canyon R. R.
Grand Canyon (1)	....do	3,676	4	71.6	.....	94	19	46	26	36	0.32	.....	0.15	0	4	6	23	1	n.	B. W. Zachau.
Granite Reef Dam	Maricopa	1,325	20	82.2	− 1.1	104	10†	49	25	38	1.62	− 0.97	1.40	0	3	19	8	3	w.	U. S. Reclamation Service.
Greer	Apache	9,200	2	.....	.....	.....	.....	.....	.....	.....	3.47	.....	0.98	1.2	7	.....	.....	.....	.....	U. S. Forest Service.

TABLE 1.—*Climatological data for September, 1913. District No. 9*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Sky.				Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy days, with 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Arizona—Continued.																				
Hackberry	Mohave	3,500	1	.....	.....	.....	.....	.....	.....	.....	0.59	.....	0.28	0	6	13	17	0	nw.	A. N. Keech.
Hereford	Cochise	4,180	4	.....	.....	.....	.....	.....	.....	.....	0.57	.....	0.52	0	2	23	2	5	sw.	Agent E. P. & S. W. R. R.
Holbrook	Navajo	5,069	23	64.7	− 2.9	91	12	36	25	39	1.13	− 0.33	0.83	0	2	22	3	5	sw.	Thorwald Larson.
Indian Oasis	Pima	3,000	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Joseph Menager.
Intake	Gila	2,230	6	.....	.....	.....	.....	.....	.....	.....	1.70	.....	1.25	0	3	23	4	3	w.	U. S. Reclamation Service.
Jerome	Yavapai	4,743	16	71.0	− 1.7	95	19	45	24†	33	2.38	+ 1.22	0.82	0	5	13	16	1	s.	Dr. L. A. Hawkins.
Keams Canyon	Navajo	6,600	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Fred A. Bartram.
Kingman	Mohave	3,326	10	.....	.....	.....	.....	.....	.....	.....	0.35	− 0.62	0.20	0	2	25	0	5	s.	Agent A. T. & S. F. Ry.
Lakeside	Navajo	6,500	15	56.3	.....	86	21	26	27	47	1.86	+ 0.03	0.96	0	5	13	11	6	sw.	Prof. Joseph Peterson.
Lewis Springs	Cochise	4,029	4	.....	.....	.....	.....	.....	.....	.....	0.40	.....	0.40	0	1	19	10	1	.....	Agent E. P. & S. W. R. R.
Lowell Observatory	Coconino	7,180	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Vesto M. Slipher.
McNeal	Cochise	4,150	3	.....	.....	.....	.....	.....	.....	.....	0.59	.....	0.22	0	5	17	8	5	se.	George J. Jones.
Maricopa	Pinal	1,186	37	83.1	+ 0.5	112	11	47	29	53	0.10	− 0.42	0.05	0	2	27	3	0	w.	Agent Southern Pacific Ry.
Marinette	Maricopa	1,150	1	80.4	.....	107	11†	49	28	46	0.42	.....	0.35	0	2	18	10	2	w.	Theo. Katzenstein.
Moccasin	Mohave	4,500	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. G. Maxwell.
Mohawk	Yuma	538	13	87.4	− 0.6	116	20	60	28	43	0.00	− 0.18	0.00	0	0	16	14	0	n.	Agent Southern Pacific Ry.
Naco	Cochise	4,579	4	.....	.....	.....	.....	.....	.....	.....	0.47	.....	0.23	0	3	6	24	0	sw.	Agent E. P. & S. W. R. R.
Natural Bridge	Gila	4,990	24	.....	.....	.....	.....	.....	.....	.....	2.90	+ 1.11	1.52	0	4	17	12	1	sw.	D. G. Goodfellow.
Nutrioso	Apache	8,000	3	.....	.....	.....	.....	.....	.....	.....	2.50	.....	.....	0	.....	.....	.....	.....	.....	U. S. Forest Service.
Oracle	Pinal	4,502	19	71.4	− 2.2	91	11†	45	26	30	0.63	− 0.72	0.55	0	3	25	4	1	.....	J. W. Lawson.
Osborn	Cochise	4,676	4	.....	.....	.....	.....	.....	.....	.....	0.33	.....	0.33	0	1	11	14	5	w.	Agent E. P. & S. W. R. R.
Paradise	Pinal	5,436	7	61.2	.....	89	19	27	28	48	2.11	.....	0.69	0	8	6	23	1	ne.	J. C. Hancock.
Parker	Yuma	345	17	82.4	− 0.6	113	14	42	24†	57	0.13	− 0.26	0.12	0	2	28	1	1	sw.	M. A. Israel, M. D.
Payson	Gila	5,550	5	63.0	.....	87	19	34	28	42	2.73	.....	1.40	0	4	12	5	13	.....	Mart McDonald.
Pearce (near)	Cochise	4,400	1	69.9	.....	96	1	39	27	46	0.38	.....	0.25	0	4	17	12	1	e.	Clarence H. Wilson.
Phoenix	Maricopa	1,108	19	81.7	+ 0.3	104	11	49	25	36	0.13	− 0.88	0.10	0	2	23	7	0	e.	U. S. Weather Bureau.
Phoenix (1)	....do	1,092	23	77.4	− 3.8	108	11	35	25	53	0.21	− 0.38	0.21	0	1	25	5	0	sw.	David Aepli.
Phoenix (2)	....do	1,189	5	80.6	.....	103	11	49	24	39	0.04	.....	0.04	0	1	13	17	0	sw.	Salt River Valley Nurseries.
Pinal Ranch	Pinal	4,520	19	.....	.....	.....	.....	.....	.....	.....	0.21	− 1.64	0.11	0	3	.....	.....	.....	.....	Irion & Craig.
Pinedale	Navajo	6,500	1	.....	.....	.....	.....	.....	.....	.....	1.53	.....	0.60	0	5	7	22	1	ne.	E. Thomas, jr.
Pinto	Apache	5,660	9	.....	.....	.....	.....	.....	.....	.....	1.15	.....	0.50	0	4	19	8	3	sw.	Cecilia F. Henning.
Prescott	Yavapai	5,320	46	61.6	− 3.0	88	20	31	24†	42	2.64	− 1.58	1.01	0	9	19	7	4	.....	Dr. J. W. Flinn.
Prescott Dry Farm	....do	5,008	1	65.8	.....	91	19	38	24	39	3.10	.....	1.20	0	4	11	19	0	.....	L. L. Bates.
Quartzsite	Yuma	800	6	84.0	.....	110	11†	47	24†	43	0.15	.....	0.10	0	2	17	13	0	w.	W. E. Scott.
Redrock	Pinal	1,864	4	.....	.....	.....	.....	.....	.....	.....	0.53	.....	0.28	0	2	15	5	10	.....	Agent Southern Pacific Ry.
Rice	Gila	2,540	30	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Arthur Pritchard.
Roosevelt	....do	2,175	9	79.8	.....	102	10	56	25†	33	0.34	.....	0.20	0	2	12	17	1	w.	U. S. Reclamation Service.
Sacaton	Pinal	1,280	6	82.6	.....	108	6†	43	26	55	0.04	.....	0.04	0	1	.....	.....	.....	.....	E. W. Hudson.
St. Johns	Apache	5,650	9	57.3[d]	.....	89	10	32	26	41[k]	3.12	.....	2.25	0	4	13	3	14	nw.	Alexander Shreeve.
St. Michaels	....do	6,950	26	58.2	− 0.6	82	20	28	24	45[e]	3.50	+ 2.01	1.30	1.0	11	15	15	0	sw.	Rev. Anselm Weber, O.F.M.
Salome	Yuma	1,875	6	80.6	.....	107	19	48	24†	46	1.05	.....	0.81	0	3	27	1	2	w.	August Nord.
San Simon	Cochise	3,609	27	73.2	− 3.5	99	7	40	29	46	0.90	+ 0.14	0.90	0	1	21	7	2	sw.	Agent Southern Pacific Ry.
Seligman	Yavapai	5,219	8	59.8	.....	89	11	32	27	34	0.50	.....	0.40	0	3	20	4	6	sw.	Librarian A. T. & S. F. Ry.
Sentinel	Maricopa	685	15	85.4	− 0.2	111	11	54	25	39	0.08	− 0.20	0.08	0	1	29	1	0	w.	Agent Southern Pacific Ry.
Silverbell	Pima	2,664	8	82.0	.....	102	11	55	25	34	.....	.....	.....	0	2	30	0	0	s.	Imperial Copper Co.
Snowflake	Navajo	5,644	6	59.2	.....	87	7	27	26	51	0.69	.....	0.18	0	6	9	10	11	sw.	William J. Flake.
Springerville	Apache	6,862	3	54.2	.....	78	23	27	25	47	1.54	.....	0.45	0	7	17	1	12	sw.	U. S. Forest Service.
Supai	Coconino	3,200	7	73.4	.....	97	5†	44	24	34	0.37	.....	0.31	0	2	17	8	5	.....	Laura B. Symons.
Tempe	Maricopa	1,165	9	80.8	.....	108	11	47	25	49	0.11	.....	0.07	0	2	25	3	2	sw.	F. H. Simmons.
Thatcher	Graham	2,800	10	75.0	+ 1.3	101	1†	42	25	50	1.10	+ 0.16	0.65	0	2	12	18	0	.....	J. H. Larson.
Thomas	Coconino	5,200	1	.....	.....	.....	.....	.....	.....	.....	3.17	.....	1.07	0	11	8	21	1	sw.	L. H. Thomas.
Tombstone	Cochise	4,550	18	73.6	+ 0.7	99	10	42	27	39	0.88	− 0.88	0.37	0	5	17	10	3	se.	Agent E. P. & S. W. R. R.
Truxton	Mohave	3,997	3	.....	.....	.....	.....	.....	.....	.....	0.75	.....	0.50	0	3	27	0	3	sw.	Truxton Canyon Indian Sch.
Tuba	Coconino	4,500	13	66.5	− 0.9	92	18†	35	26	46	0.62	+ 0.07	0.23	0	8	13	15	2	sw.	Ira E. Bell.
Tucson	Pima	2,390	33	78.0	− 2.3	102	10†	43	26	44	0.14	− 0.75	0.14	0	1	20	9	1	w.	University of Arizona.
Tucson (1)	....do	2,380	5	71.8[d]	.....	103	20	.....	.....	60[b]	0.17	.....	0.17	0	1	20	10	0	sw.	Rev. James F. Record.
Tucson (2)	....do	2,526	4	77.6	.....	101	11	45	25	46	0.13	.....	0.06	0	3	21	8	1	nw.	U. S. Coast & Geod. Survey.
Vail	....do	3,421	14	70.4	.....	98	20	40	26	52	1.50	+ 0.93	1.50	0	1	24	5	1	.....	Agent Southern Pacific Ry.
Walnut Grove	Yavapai	3,649	20	.....	.....	.....	.....	.....	.....	.....	0.50	− 0.22	0.25	0	3	.....	.....	.....	.....	J. O. Carter.
Wickenburg	Maricopa	2,072	15	78.4	+ 1.7	106	19	42	24†	49	0.32	− 0.25	0.30	0	2	19	0	11	.....	Agent S. F. P. & P. Ry.
Willcox	Cochise	4,164	32	69.6	− 3.0	95	13	35	26	50	0.18	− 0.80	0.18	0	1	17	10	3	sw.	Agent Southern Pacific Ry.
Williams	Coconino	6,750	13	61.2	+ 1.1	89	19	27	27	49	1.65	+ 0.07	0.45	0	6	16	14	0	.....	E. J. Nordyke.
Winslow	Navajo	4,855	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Winslow High School.
Yuma	Yuma	141	33	85.8	+ 1.9	112	11	57	29	42	0.00	− 0.16	0.00	0	0	30	0	0	sw.	U. S. Weather Bureau.
Yuma	....do	150	6	80.3	.....	109	11	46	29†	49	0.02	.....	0.02	0	1	28	2	0	sw.	C. J. Wood.
Nevada.																				
Caliente	Lincoln	4,407	3	59.2	.....	88	10	28	27	46	0.10	.....	0.05	0	4	25	4	1	.....	Salt Lake Route.
Las Vegas	Clark	2,033	11	76.4	+ 5.6	103	11	41	24	44	0.15	− 0.17	0.15	0	1	23	5	2	s.	C. P. Squires.
Logan	....do	1,355	6	78.5	.....	107	12	42	27†	47	0.21	.....	0.20	0	2	27	3	0	s.	Orin W. Jarvis.

[a], [b], [c], etc., indicate respectively 1, 2, 3, etc., days missing from the record.
** Temperature extremes are from observed readings of the dry bulb; means are computed from observed readings.
† Also on other dates.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 2.—*Daily precipitation for September, 1913. District No. 9, Colorado Valley.*

Stations.	Watershed.	Day of month.																												Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Wyoming.																																
Big Piney	Green								.85	.15	.05																				1.05
Daniel	do	.28						.20	.30	.40					.12						.20	.40	.20								2.10
Eden	do							T.	.20	.10				.05								.20		.02					.05	0.62
Green River	do							.05	.02	.05				T.	T.									.11	T.					T.	0.23
Pinedale	do	.02	.16	.06					.36	.47													T.	.17	.30				.02	.12	1.54
Wamsutter	do		.02	.07			.03	.48	.01	.20					.07								.36	.36	.34						1.02
Willow Creek Cabin	do		.31	.35			.15	.25	.55	.61																					3.28
Colorado.																																
Ashcroft	Grand	.03	.02	.02	.04	.27	.12	.03	.20	.37	.11	.05	T.		.07	.02	.18						.53	.09	.10		.09	.01	.03			2.38
Aspen	do																															
Blue Valley Ranch	Yampa	.12			T.	.24	.18	.21	.15	.03		T.				.20	.03						.26	.04	.01				T.			1.47
Cascade	San Juan	.42	.09	.05	T.	.09	.47	.15	.50	.35		.01											.94	.84	.01		.01	T.				3.93
Cedaredge	Gunnison		.07			.07		.18	.11														.44	.10								0.97
Cochetopa	do	T.		.25	.10	.20		.25	.23					.30									.30	.10			.20					1.93
Collbran	Grand	.14	.08	.05	T.			.55	.16	T.	T.	T.			.61	.01	.02						.76		.13	T.						2.51
Columbine	Yampa					.04				.06					.12	.03	.14						.13	.04								0.56
Columbine Ranch	Gunnison		.16				.26	.52	.16		.90												.65	.20								2.85
Cortez	San Juan																															
Crawford (near)	Gunnison	.09	.04	.01	.03	.04	.03	.05	.05	.07	.02												.92	.27	.05							1.67
Crested Butte	do	.08	.07				.05	.05	.22		.06	.20			.28								.75	.28			.13					2.17
Delta	do						.05		.08	.03													.70									0.86
Dillon	Grand	.04	.02		.10	.05	.06	.43	.23	.05	.02	.17			.04	.25	.14						.16	.02	.07			.11		.07		2.03
Durango	San Juan	.01	.33	.03	.09	.10	.08	.13	.63	.27						T.							.25	.24		.17	.07	T.				2.40
Eureka	do	T.	T.	T.	.12	.14	.80		T.		T.					T.							.17	.58	.16	T.				T.		1.97
Fraser ‖	Grand	.25	.03	.13	.38	T.	.10	.28	.02		.06		.25	.05		.56	.48							.24	.52				T.	.22		3.57
Fruita	do	T.	.02	T.	T.		T.	.02	.26			.09			.13								.68		.05							1.25
Glade Park	do	.25	T.	.25				.85	.03						.24								.55		.05							2.22
Gladstone	San Juan	.02	T.	.01	.91	.22	.07	.08	.40	.19	.04	.05	.01			.05							.68	.51	T.	.01		.21				3.46
Glenwood Springs (near)	Grand	.10	.11	.08	.16				.12	T.	.20					.20							.30	.35								1.62
Grand Junction	do	.05	.20	.31		T.	.04	.03	.02						.08	T.							.95	.02	T.							1.70
Grandlake	do		T.	T.					T.	.85		T.			.60	.15						T.	T.	.20	.20				.10			2.10
Grand Valley	do	.04	.14	T.	.05		.03	.28	.58	.03	.04	T.			.04								.64	T.	.20							2.07
Gunnison	Gunnison			.15	.30	.20		.01	.04														.58	.19								1.47
Hayden	Yampa	.05	.02	.11		.06	T.	.03	.38	.15		T.			.07								.82		.18							1.87
Hesperus (near)	La Plata	.10	.05			.62	.43	.64															.27	.30		.23						2.64
Horsefly	Gunnison	.12	.09	T.	.43	.50	.49	.45	.20			T.											.60	.52								3.40
Ironton	do			.12	.47	.23	T.	T.	.73	.18													.21	1.10				T.				3.04
Lake City	do	.01	.05	.19	.01	.33	.01	.10	.30	.06		.08				.02							.13	.46			.01	.03				1.79
Lay	Yampa		T.	.02				T.	.07		.10	T.			.10								.42									0.71
Mancos	San Juan	.10	.76	T.	1.35	.50	.60	.13				T.			T.						.15	.30	.20					.70	T.				4.79
Marble	Grand		.07			.09		.14	.17	.59		T.				.22							.84	.19	.30							2.61
Marshall Pass	Gunnison					.20			.30								.10							.30	.17				.16			1.23
Meeker (near)	White	.10	.12				.03		.40	.02	.12												.92	T.								1.71
Montrose	Gunnison	.04	.12					.07	.28	.07													.55	.11	.03							1.27
Nast	Grand		.52			.46	.21										.47						.20	T.	.60							2.46
Pagosa Springs	San Juan	.01	.09		.07	.31	.40	.05		.37		.02	.08			.04							.45	.67		.09	.06	.07			T.	2.78
Palisades	Grand	T.	.10	.15					.27		T.		T.		.09								.78	T.	T.							1.39
Paonia	Gunnison		T.			T.	T.	.10	.04	.07		.04			T.	T.							.80	.18	.04							1.27
Pitkin	do			T.	.11		.35			.09		.07											.35	*	.35	T.						1.32
Redcliff	Grand		T.			.70		.30	1.00	.20	.20			.02									.51	.30				.22				3.45
Redvale	San Miguel	.10							.60	.40													T.									1.10
Rico	Dolores	.11			.73	.13	T.	.06	.84			.45				.10			T.		.84		1.05				T.		T.			4.31
Rifle	Grand	.02	.12	.40	T.			.22	.07	.05	.07				.07	T.							.66	.01	.05							1.74
River Portal	Gunnison	T.	T.	T.	.59	.02	.19	.03	.08	.11					T.								.97	.31	.02							2.32
Sapinero (near)	do	.02	.07	.08	.01	.11	.08	T.	.45	.07		.03			.21								1.10	.43	.04		.02	.05				2.77
Shoshone	Grand			.04			.28	.04	.22	.18					.06	.12	.05						.58	.06	.08							1.71
Silverton (near)	San Juan	T.	T.	T.	.75	.20	.04	.05	.62	.19	.01	.03	T.			.02							.70	.55		T.		.14	T.			3.30
Spruce Lodge	Grand	.50	.43	T.	.59	.33	.05	.42	.26	.08		.21	.28		.27	.27	.37						.21	.06	.52				.63		.03	5.51
Steamboat Springs	Yampa	.27	T.	.12	.22		.32		.14	.30	.12	T.			.56								.76	T.	.20							3.01
Tacoma	San Juan		T.	.12	T.	.78	.35	.10	.60	.14						.08							.18	.60		T.	.23	T.				3.18
Telluride	San Miguel	.30	.05	.21	.12	.14	.33	.15	.26	.38		.11			.08	.06							.11	1.25				T.				3.55
Terminal Dam	San Juan	.14		.21		.38	.36	.20	.41	.39						.10							.50	.52	.03	.02	.28					3.54
Yampa (near)	Yampa	.20					T.	.25	.05														T.	T.	.35						.07	0.92
Utah.																																
Bluff	San Juan																															
Boneta	Green	.10	.12						.18	.24	.20		.05	.08										.18	.20							0.00
Canaan	Colorado	1.57	.16				.38	.06				.33											.46									1.35
Castle Dale	Green	.25	.40	.10			.10	.20	.30	.40																						2.96
Cisco	Grand																															1.75
Dragon	Green	.04	.15	.13	.01		.01	.04	.68	T.																						
Duchesne	do	.08	.05	.14			T.	.23	.48	.02		T.			.13								.05	.01								1.12
Elkhorn	do	.20	.20	.16			.10	.10	.20	.05				.15	.25								.25	T.								1.38
Emery	Colorado							.10	.10	T.													.14	.36								1.91
Escalante	do							.60	.20	.10																						0.20
Fort Duchesne	Green	T.	.07	.01			T.	.14	T.	T.					T.																	0.90
Fruitland	do	.40	.43	.12			.17	.41		.41	T.			T.	.10									.08	.06								0.36
Grayson	San Juan					.50	.06	.02	.42	.19			T.		.03								.45	T.	.10							2.59
Green River	Green	.07						.09	.39						.06									.17	.03							1.42
Hanksville	Colorado																						.02									0.63
Hite	do	T.	T.				.14	.34	T.						T.	T.																
Hurricane	do		.20																				.14	T.	T.							0.62
Kanab	do	.25	.17	.15				.24							.35							.25	.45									0.90
La Sal	Grand	.17	.24		.19	.17	.16	.33	.44	T.	.02		T.		T.							.38										1.54
Leeds (near)	Colorado	.17	.08				.20	T.						T.	T.							.25	T.	.05	T.							2.02
Loa	do																						.30	T.								0.75
Manila	Green		.23																													
Moab	Grand	.03	.10				T.	.21	.57	.18	T.				.37								.13								.13	0.86
Monticello	do														.15								.54									1.78
New Harmony	Colorado	1.14		.64																												
Orderville	do	1.10	1.13	.10		.25	.01	.09			.08				.08		.32						.80						.36			2.44
Pine Valley	do																															3.64
Price	Green																															
Ranch	Colorado	.24	.79			.12																	.55									1.70
San Rafael	Green																															‡0.22
St. George	Colorado	.54	.04				.08	.08															.34									1.08
Scofield	Green		.12	.31			.04	.31	.04		.10		.04	.12	.24							.20	1.00	.30	.07							2.80
Springdale	Colorado																															

TABLE 2.—*Daily precipitation for September, 1913. District No. 9*—Continued.

Stations.	Watershed.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Utah—Continued.																																
Strawberry	Green	.12	.16	.64			.21	.15		.01					.15								1.04	.76								3.24
Teasdale	Colorado	T.	T.	T.			T.	.80	T.	T.																						0.80
Thompsons	Green	T.	.72				T.	.07	.04	.27					T.								.26									1.36
Tropic	Colorado	T.	.48	.29			T.	.38	T.		T.												.54									1.69
Trout Creek Ranger	Green																															
Vernal	do																															
Victor	do			.30	.34						.19								.08													
White Rocks	do		T.	T.		.15	.05		.30					T.	.04								T.	T.	T.						.44	1.35
Woodside	do								.35																							0.54
																																0.35
New Mexico.																																
Alma	Gila				T.	.04	.05	.30		T.	.04	.20	.02										.31	.23			*	.14				1.33
Aragon	do				.20	.25	.52	.20					T.										.40	.15								1.72
Aztec	San Juan				T.	.26	T.	T.	T.				T.										.01	*	.46	.34	.01					1.08
Berger's Ranch	Little Colorado	T.		T.	.28	.95	.42	.11	.56	.93		.30	.26		T.	.54							.34	.60		T.	T.					5.29
Blackrock	do																															
Bloomfield	San Juan				.20	T.	T.	.13	.05				T.										.37	.32		.50	.01					1.58
Cambray	Mimbres				.09				.09																.05	.05						0.28
Cliff	Gila							.20					.15										.40	.20								0.95
Columbus	Mimbres																						.05		.15							0.20
Crystal	San Juan	.17	.04	.29	T.	T.	.37	.30	.28	.18					.61	.01							.30	.60	.28							3.43
Deming	Mimbres																								.30	.22	.25					0.77
Dulce	San Juan				.14				.35	.40		.04											.30	.59								1.82
Fort Bayard	Mimbres		.03	T.	.02	.33	.07	.38	.08	T.														.17		.01	.09					1.18
Fruitland	San Juan						.37	.15	.52														*	.27			.11					1.42
Gage	Mimbres		.67		T.	T.	.25		.45															.10	.20			.10				1.77
Gila Planting Sta	do		.01	T.	T.	.41	.07	.15	.32	.12	T.	T.											T.	.32			.22	.01				1.63
G. O. S. Ranch	Gila																															
Hachita	do		.57		T.	.79			.03														.02	T.	.28	.23						1.92
Haynes	San Juan	T.		T.	.09	.20			.68	.17			T.										.35	.55		.25		.05				2.34
Hermanes	Mimbres		.25		.05	.75																			.47	.54						2.06
Lordsburg	Gila				.17		1.03																	.50								1.70
Luna	do	T.		.20	T.	.43	.22	.08	.16		T.		.35			T.								.27	.39							2.10
Mimbres	Mimbres				.33	.78	.77																	.45		.21	.42					2.96
Pinos Altos (near)	Gila					.28	.20	.56	.83	.50														.58	1.49		.25					4.69
Pratt	do	.05		.05	.15	.02							.23											.13								0.63
Putnam	San Juan																															
Redrock	Gila			.02	.08	T.				.04	.07	.28	T.									T.	.02	.34			.38					1.28
Rodeo	do		.05		.25		.98	.10				.05												.94								2.37
Silver City	Mimbres		.01		.30	.06	.29	.15	.08	T.		.02	.03										.04	.11								1.09
Arizona.																																
Allaires Ranch ‖	Sonora	.10	.10		.47	.01	.09					.56																				1.33
Alpine	Gila		.15	.30	.67	.61	.06	.04	.24				.08										.78	.42	.30		T.					3.65
Ashfork	Verde		.50				.40																									0.90
Aztec	Gila	.25																														0.25
Benson	San Pedro	.39	.15	T.			.12																									0.66
Bernardino	Sonora				T.	.12	.21					T.																				0.33
Bisbee	San Pedro	.30	.10				.20																	.04								0.64
Blue	Gila			.22			.20	.35	.30	.22		T.											.36	.20	.25							2.10
Bonita	do		.85		.05																		.08									0.98
Bowie	do					.06							.37											.21	.08							0.72
Buckeye	do	T.				T.	.12																									0.12
Canille	San Pedro	.36	.06	T.	.03	.04	.06	.06																	T.							0.61
Casa Grande ‖	Gila																											.05				0.05
Casa Grande Ruins	do											T.											T.	T.								T.
Cave Creek (near)	Desert	2.85					.47																.28									3.60
Chandler	Salt	.03					.03	.12					.23																			0.41
Chin Lee	Little Colorado	.08		T.		T.	.08	.19	.20						.16	.05							T.	.37								1.13
Chlarsons Mill	Gila	.01	.61		.01	.37	.43	.22		.33													.53									2.51
Clifton	do				.30	T.	.05					T.	.12										.03				.12					0.62
Cline	Salt																					.67										0.67
Cochise	Desert				.18																											0.18
Columbia	Agua Fria	.20	.30																				.50									1.00
Cornville	Verde														12							.30	.13								0.55
Courtland	White	.12	.25		.24		.35	.55																	.25							1.76
Don Luis	San Pedro	.30	.10	T.	T.	.15	.45	T.	T.																.05							1.05
Dos Cabezos	Desert	.06	.21	.20	.30	.42	.05																									1.24
Douglas	Sonora	.11	.24		.02	.16	T.	T.	T.														.04		T.							0.57
Dudleyville	Gila	.02	.18									T.											.12	.22								0.54
Elgin	San Pedro	.26	.05		.02	.70	.10																									1.13
Fairbank	do	.23	.04			.25	.20				.02														.09							0.83
Flagstaff	Little Colorado	.14			.01	.21	.15	.02	.01	.34	.47		.01	.04	.12								.12	.25								1.89
Flagstaff (1)	do	.08	.18		.02	.37	.03		T.	.09	.04	T.	.31	T.	.17								.46	.06	.06							1.87
Florence	Gila						.65																									0.65
Fort Apache	Salt	.02				.13	.19	.03					.01									.20	.01	.01								0.60
Fort Huachuca	San Pedro	.32	.42	.05		.05	.07	.13																								1.04
Fort Mohave	Colorado																															
Gila Bend	Gila																															0.00
Globe	Salt							.23	.52														.14	.01								0.90
Grand Canyon	Colorado	.50																					T.	T.	T.							0.50
Grand Canyon (1)	do	.12	.02					T.			T.				15	.03								T.								0.32
Granite Reef Dam	Salt						1.40					19											.03									1.62
Greer ‖	Little Colorado				.29	.39		.42		.98		.48											.77			14						3.47
Hackberry	Colorado	.03	.05			T.	.14	T.	T.				.05	.28								.04										0.59
Hereford	Gila						.52	.05																								0.57
Holbrook	Little Colorado						.30																.83									1.13
Indian Oasis	Desert																															
Intake	Gila					.10	1.25															.35										1.70
Jerome	Verde	.55	.39				.30									.82							.32									2.38
Keams Canyon	Little Colorado																															
Kingman	Colorado					.20	T.							.15																	T.	0.35
Lakeside	Little Colorado	.96	T.			T.	T.	T.		.15		.07			T.								.56	.12		T.						1.86
Lewis Springs	San Pedro	.40																														0.40
Lowell Observatory	Little Colorado																															
McNeal	White	.22	.11			.12		.11																	.03		T.					0.59
Maricopa	Gila				T.	.05																	.05									0.10

TABLE 2.—*Daily precipitation for September, 1913. District No. 9*—Continued.

Stations.	Watershed.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Arizonia—Contd.																															
Marinette	Agua Fria	.35				.07																									0.42
Moccasin	Colorado																														
Mohawk Summit	Gila																														0.00
Naco	San Pedro	.23	.10		.14	T.																									0.47
Natural Bridge	Verde	1.52			T.		.30	.50															.58								2.90
Nutrioso	Little Colorado																														‡2.50
Oracle	San Pedro		.05					.55				.03																			0.63
Osborn	do		.33																	T.											0.33
Paradise	Desert		.59	.04		.69	.13	.19	.13															T.	.24	.10					2.11
Parker	Colorado														.01							.12									0.13
Payson	Verde	1.40				.89	.04																.40	T.							2.73
Pearce	Desert	.04	.03		.25	T.	.06																T.	T.	T.						0.38
Phoenix	Salt	T.			T.	.10		T.															.03								0.13
Phoenix	do						T.															.21									0.21
Phoenix (2)	do	T.					.04	T.															T.								0.04
Pinal Ranch‖	Gila					.05	.11	.05																							0.21
Pinedale	Little Colorado						.60	.20	.16	.16													.41								1.53
Pinto	do					.37	T.	.10		T.	T.	T.	T.	T.							T.	T.	.50	.18							1.15
Prescott	Hassayampa	1.01	.02			.73	.37	.13			.03	.02		.06	T.	T.							27							T.	2.64
Prescott Dry Farm	Verde	1.20				1.10				.30													.50								3.10
Quartzsite	Colorado							.10							.05																0.15
Redrock	Santa Cruz	.28				.25																									0.53
Rice	Gila																														
Roosevelt	Salt					.20																	.14								0.34
Sacaton	Gila					.04																									0.04
St. Johns	Little Colorado		T.	T.		2.25		.45								.07						.35									3.12
St. Michaels	do	T.		T.	.12	.08	.45	.50	.05	.12	.08	T.	.12		1.30								T.	.48		.20					3.50
Salome	Colorado		.81				.14															.10									1.05
San Simon	Gila												T.										.90								0.90
Seligman	Verde	.06	.04				T.	.40					T.		T.						T.	T.									0.50
Sentinel	Gila	.08																													0.08
Silverbell	Santa Cruz																														
Snowflake	Little Colorado			.10	.03		.10	.13			T.	T.		T.										.15	.18						0.66
Springerville	do	.40		.08	.15	.08																	.45		.20	T.	.18				1.54
Supai	Colorado	.31	.06																												0.37
Tempe	Salt	.04				T.	.07	T.															T.								0.11
Thatcher	Gila		.65			.45		T.												T.											1.10
Thomas	Verde	1.07	.01		.35	.03	.82	.15	.13		.20	.01	.36		.04							T.		T.						T.	3.17
Tombstone	San Pedro	.37	.08			.20	.18		.05																						0.88
Truxton	Colorado	.50					.15							.10																	0.75
Tuba	Little Colorado	.07	.12	.02	.13	.01		.23	.01						.03																	0.62
Tucson	Santa Cruz						.14					T.																			0.14
Tucson (1)	do							.17																							0.17
Tucson (2)	do	.01	T.			.06	.06	T.																							0.13
Vail	do						1.50																								1.50
Walnut Grove	Hassayampa						.10	.15														.25									0.50
Wickenburg	do						.02														.30										0.32
Willcox	Desert		.18			T.																									0.18
Williams	Colorado		.45			.34					.24		.07		.28							.27									1.65
Winslow	Little Colorado																														
Yuma	Colorado																														0.00
Yuma (1)	do	.02													T.																0.02
Nevada.																															
Caliente	Colorado	.02	.01											.02									.05								0.10
Las Vegas	do												.15	T.																	0.15
Logan	do	.20												.01																	0.21

* Precipitation included in that of the next measurement.
‡ Separate dates of falls not recorded.
‖ Precipitation for the 24 hours ending on the morning when it is measured.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 3.—*Maximum and minimum temperatures for September, 1913. District No. 9, Colorado Valley.*

Date.	Wyoming.				Colorado.										Utah.												New Mexico.			
	Daniel.		Green River.		Durango.		Grand Junction.		Gunnison.		Meeker.		Steamboat Springs.		Emery.		Hite.		Moab.		St. George.		Fort Duchesne.		Bloomfield.		Fort Bayard.			
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.		
1	70	44	80	53	72	53	84	63	70	49	71	48	74	44	80	45	90	73	92	64	84	64	89	50	80	56	80	51		
2	67	38	81	55	72	47	81	63	72	45	73	48	72	39	81	42	89	72	90	63	87	64	83	57	80	48	76	54		
3	66	38	75	56	77	50	82	59	71	47	.....	.....	74	44	80	41	93	65	91	57	91	65	70	58	79	55	79	53		
4	75	34	82	55	80	48	84	56	71	49	.....	.....	81	37	82	49	95	63	93	53	95	56	82	57	82	54	76	52		
5	78	36	86	50	77	55	84	64	70	48	.....	.....	76	43	81	45	96	69	94	56	95	57	87	62	78	58	74	53		
6	78	40	86	54	79	53	80	64	70	46	75	47	80	43	82	43	86	67	91	58	96	65	84	53	79	56	70	52		
7	61	41	83	58	78	56	79	61	75	42	75	49	79	51	81	42	79	63	80	60	91	64	76	56	80	53	73	50		
8	60	40	77	58	69	53	70	59	70	44	73	46	77	48	80	40	87	63	83	61	93	59	75	60	73	58	73	55		
9	67	41	79	55	72	47	80	57	73	46	65	45	70	44	82	45	90	63	87	55	96	63	74	59	77	48	74	52		
10	71	29	83	45	79	44	83	56	74	48	71	37	76	35	83	46	93	66	90	53	98	54	83	48	81	48	81	53		
11	74	33	84	46	78	43	83	54	69	49	76	36	75	34	80	43	95	61	88	49	100	55	83	42	81	48	80	54		
12	75	31	81	46	75	42	86	54	70	36	77	38	78	30	81	45	94	60	92	49	101	57	80	43	81	52	74	51		
13	72	31	75	55	75	41	83	55	73	31	78	36	79	32	82	43	91	63	92	55	81	57	80	43	77	46	73	41		
14	68	40	78	51	71	44	72	58	74	39	70	44	62	39	80	43	90	67	87	59	90	55	80	44	73	46	75	41		
15	63	29	75	54	73	42	78	49	76	42	70	37	69	37	80	40	90	58	85	52	96	56	82	43	76[e]	44	81	49		
16	66	26	74	.....	77	42	73	51	70	49	62	31	70	32	78	41	84	64	79	53	96	51	84	53	78	42	82	51		
17	73	29	79	.....	74	38	80	43	72	23	71	27	73	22	81	43	89	59	85	40	96	50	89	50	83	37	79	53		
18	69	26	81	42	79	37	83	48	72	23	72	31	78	26	82	42	91	50	91	40	94	41	79	41	83	35	81	42		
19	69	31	73	47	81	40	82	46	69	24	65	33	68	33	80	42	95	56	89	45	97	44	79	42	86	37	87	52		
20	73	31	77	52	76	37	80	46	74	32	70	24	73	18	81	40	91	56	87	41	99	44	90	55	83	37	83	49		
21	61	27	82	34	79	35	78	47	71	41	77	28	77	19	80	39	90	53	85	38	94	48	76	45	86	32	81	44		
22	37	21	49	47	65	45	66	43	63	39	65	32	60	33	78	38	87	61	77	51	86	56	89	46	76	49	78	52		
23	38	19	50	35	45	34	54	37	40	30	45	25	43	23	75	38	65	45	70	37	72	49	70	45	51	35	71	53		
24	43	31	49	35	52	29	54	38	48	26	46	30	46	29	72	39	69	42	66	36	72	35	69	32	59	33	69	45		
25	52	15	56	.....	49	29	62	41	52	21	52	26	54	18	75	35	70	51	69	45	75	40	.....	.....	53	33	66	42		
26	68	21	68	.....	51	33	68	38	54	21	60	21	63	18	71	32	76	47	76	34	78	38	.....	.....	60	36	62	34		
27	66	27	71	.....	61	33	69	40	62	23	60	25	63	21	73	35	79	44	77	56	85	35	.....	.....	64	39	60	31		
28	69	27	72	.....	68	31	75	42	60	24	64	32	64	33	73	36	85	45	83	38	85	38	76	45	71	39	73	36		
29	67	21	57	.....	6[a]	32	78	47	65	20	72	25	72	21	71	30	83	44	83	38	86	38	77	46	78	39	78	41		
30	55	29	57	.....	71	36	74	45	67	26	60	39	68	31	72	31	82	52	82	44	80	43	74	44	81	40	78	42		
Mns.	65.0	30.8	73.1	48.4[b]	70.8	41.6	76.2	50.8	67.2	36.1	67.2[c]	34.8[c]	69.8	32.6	78.6	40.4	86.5	58.1	84.5	49.3	89.6	51.4	80.0[c]	48.9[c]	75.6	44.4	75.6	47.6		

Date.	Arizona.																						Logan, Nev.	
	Douglas.		Flagstaff.		Fort Apache.§§		Grand Canyon.		Parker.		Phoenix.		Prescott.		St. Michaels.		Tucson.		Yuma.			
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	89	49	63	51	76	48	80	46	101	73	94	71	69	53	69	47	88	62	99	73	89	71
2	88	56	69	48	84	47	82	44	101	68	94	67	74	50	77	43	87	61	99	70	94	65
3	90	48	70	49	86	53	80	46	101	65	95	69	78	49	78	53	92	58	101	70	97	66
4	90	54	75	44	84	51	80	44	108	68	99	72	82	48	80	50	94	64	105	68	103	67
5	90	50	72	50	82	49	82	46	110	69	100	76	80	53	71	55	94	74	106	71	104	68
6	88	51	64	49	79	47	82	48	109	76	95	73	75	52	70	52	92	66	104	75	97	76
7	90	49	69	48	77	50	82	50	110	75	94	69	76	51	75	53	93	65	103	74	98	68
8	93	55	71	43	82	52	80	48	108	71	99	72	78	50	69	54	96	67	106	75	99	68
9	96	52	71	44	84	48	80	46	110	70	100	74	81	52	71	46	98	69	108	72	102	65
10	95	52	74	43	89	48	78	44	110	73	103	72	82	51	80	45	102	66	109	73	104	60
11	93	55	74	44	90	47	80	46	112	73	104	75	83	48	80	45	102	70	112	74	105	74
12	86	58	76	48	85	48	80	46	112	73	101	76	85	54	76	46	97	75	108	78	107	72
13	86	52	71	45	80	47	82	44	112	62	97	75	78	50	75	43	94	71	107	79	95	72
14	89	41	70	47	80	44	82	46	113	58	97	71	78	51	71	45	93	64	104	77	94	67
15	91	40	69	41	85	44	82	44	108	60	97	67	78	53	72	42	95	59	104	71	101	62
16	93	43	72	41	89	45	80	46	109	60	103	68	82	46	72	45	99	59	108	71	98	61
17	88	56	74	43	87	44	78	46	110	60	102	70	86	44	79	34	99	63	108	78	100	65
18	95	52	78	38	85	45	78	42	112	55	103	72	83	46	80	38	101	70	108	72	102	61
19	95	50	80	39	92	44	76	40	110	60	103	68	87	45	80	45	99	62	108	68	102	57
20	89	46	80	39	89	68	78	44	111	60	100	71	88	46	82	38	100	64	105	72	104	58
21	96	41	77	40	89	55	76	44	111	60	102	72	84	50	81	38	101	69	106	76	100	58
22	89	51	67	51	85	55	68	40	105	60	96	71	76	54	69	56	97	72	102	78	95	59
23	79	55	55	33	78	41	48	25	90	60	89	66	69	50	.....	32	92	73	92	68	88	59
24	87	53	56	28	80	50	55	26	88	42	83	56	65	31	.....	28	83	59	88	61	78	46
25	80	39	52	28	78	46	60	28	85	44	82	49	61	31	.....	40	80	48	87	58	79	54
26	70	36	53	32	69	40	66	34	92	48	84	59	64	32	.....	45	74	43	91	62	84	49
27	75	37	65	27	70	44	70	36	92	44	84	61	72	32	.....	30	85	59	93	58	89	42
28	79	29	68	31	78	45	68	38	96	44	89	56	74	35	55	35	89	52	97	57	92	42
29	89	32	66	32	80	36	72	40	98	52	93	57	74	37	58	36	92	48	99	57	92	50
30	88	37	63	29	80	36	76	40	88	42	87	60	71	36	66	33	91	52	89	58	85	50
Means	88.2	47.3	68.8	40.8	82.4	47.2	75.4	41.9	104.1	60.8	95.6	67.8	77.1	46.0	73.4[c]	43.1	93.3	62.8	101.9	69.8	95.9	61.1

[a], [b], [c], etc., indicate respectively 1, 2, 3, etc., days missing from the record.
§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.

CLIMATOLOGICAL DATA FOR SEPTEMBER, 1913.

DISTRICT NO. 10, GREAT BASIN.

ALFRED H. THIESSEN, District Editor.

GENERAL SUMMARY.

September was, on the whole, a normal month. The temperatures were moderate, except in the latter portion, when frosts from light to killing occurred; but there was practically no damage, as harvesting of the principal crops was about over. Precipitation was also about normal. Snow occurred at a few points, 5 inches falling at Strawberry, West, Utah.

The average number of clear days for the district was 18, partly cloudy days 7, cloudy days 5, and rainy days 5.

TEMPERATURE.

The mean temperature for the Great Basin was 59.3°, or 0.3° below normal, and 5° warmer than September, 1912. The individual means varied from 49.8° at Seneca, Oreg., to 75.8° at Jean, Nev. The Nevada and the more level portion of the Utah areas were the warmest parts of the district, while the Oregon, Idaho, and Wyoming areas were the coldest. A study of the local temperatures discloses the fact that decided departures from the normal occurred at only a few places. The greatest deficiency in temperature was 7.6° at Kelton, Utah, the mean being 53.4°; while the greatest excess was 6.7° at McGill, Nev., the mean being 61.9°. At the greater number of stations the mean temperature for the month departed from the normal by less than 2°.

The warmest portion of the month was the first two decades, the temperatures nearly equaling the normal, and during this period the highest temperatures for the month were generally recorded. During the last decade the temperatures were generally below normal, especially from the 22d to the 27th, when the lowest for the month occurred at nearly every station.

The following were the highest temperatures that occurred in the various areas of the several States of this district: 86° on the 7th at Border, Wyo.; 91° on the 6th at Weston, Idaho; 100° on the 7th at Iosepa, Utah; 91° on 20th and 21st at Silver Lake, Oreg.; 88° on the 14th at Truckee, Cal.; and 103° on the 6th at Jean, Nev. These extremes are from 6° to 12° higher than were the extremes in September, 1912.

The lowest temperatures were: 16° on the 24th at Border and on 25th at Cokeville, Wyo.; 17° on the 25th at Paris, Idaho; 12° on the 24th at Kelton, Utah; 8° on the 24th at Seneca, Oreg.; 16° on the 26th at Bridgeport, Cal.; and 10° on the 30th at Geyser, Nev.

The precipitation for the district averaged 0.82 inch, or 0.09 inch above normal. Nearly all of it fell in the form of rain. Thunderstorms were frequent during the first half of the month and from the 21st to the 23d.

The geographical distribution of moisture was normal, the heavier amounts having occurred as usual in the western slope of the Wasatch Mountains in Utah, and the lesser in the Nevada and western portion of the Utah areas.

Considering those stations having normals, it appears that the majority of stations in the Utah area reported amounts above normal, while in the other areas of the district the excesses more nearly equaled the deficiencies. The greatest plus departure from the normal was 2.20 inches at Soldier Summit, Utah, whose total for the month was 2.89 inches; the greatest minus departure was 0.90 inch at Pinto, Utah, whose total for the month was 0.62 inch.

The greatest local monthly amount was 4.14 inches at Strawberry, West, Utah, while 11 stations reported no rain and 6 only traces.

Rain fell quite generally over the district on the first three days of the month; other rainy periods were 6th–9th, 13th–14th, 21st–24th, and 29th–30th.

LOCAL STORMS.

It was reported that near Ibapah, Utah, the harvesting of the second crop of alfalfa was almost impossible, due to the unusually heavy rains; also that the mails were delayed in parts of Tooele County on account of floods.

Goldfield, Nev., was visited by a cloudburst on September 13, 1913. The gulches west of the town were roaring torrents, and houses were washed from their foundations and carried away. In the business section the water reached the level of the first floors. This storm caused a loss of two lives and $100,000 worth of property.

17172—13——8

TABLE 1.—*Climatological data for September, 1913. District No. 10, Great Basin.*

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, 0.01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Wyoming.																				
Border	Lincoln	6,085	11	52.5	+ 1.2	86	7	16	24	52	0.24	− 0.73	0.14	0.0	3	20	4	6	w.	S. W. Condron.
Cokeville	do	6,204	3	50.0	.....	82e	7	16e	25	54e	1.28	.....	0.36	T.	6	18	1	11	w.	E. J. Tuckett.
Evanston	Uinta	6,860	17	52.0	− 0.5	80	5	22	25	49	1.17	+ 0.20	0.43	T.	6	16	10	4	w.	Frank Tucker.
Idaho.																				
Geneva	Bear Lake	6,171	4	.....	.....	.....	.....	.....	.....	.....	0.74	.....	0.35	T.	5	24	2	4	.....	F. W. Boehme.
Grace	Bannock	5,400	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. W. Joy.
Paris	Bear Lake	5,946	18	53.2	− 1.3	80	1†	17	25	48	0.50	− 0.43	0.20	T.	4	20	6	4	w.	John Norton.
Weston	Franklin	4,460	14	58.8	+ 1.1	91	6	21	25	51	1.48	+ 0.58	0.60	0	7	18	2	10	n.	Wm. T. Chatterton.
Utah.																				
Alpine	Utah	4,900	14	.....	.....	.....	.....	.....	.....	.....	0.95	− 0.27	0.50	0	2	19	6	5	.....	T. F. Carlisle.
Beaver	Beaver	6,000	9	54.4	.....	87	5	14	24†	59	2.52	.....	0.97	.....	9	11	19	0	.....	Henry Baker.
Black Rock	Millard	4,872	9	59.0	.....	90	5	18	16	56	0.80	.....	0.63	0	3	14	7	9	.....	W. D. Livingston.
Brigham City	Boxelder	4,305	.....	65.3a	.....	89a	6	35a	23	36a	1.72	.....	0.82	0	8	.....	.....	.....	.....	Nephi M. Valentine.
Burrville	Sevier	6,800	2	52.2	.....	76	17	23	26	42	1.28	.....	0.45	0	8	.....	.....	.....	.....	F. R. Curtis.
Castle Rock	Summit	6,244	8	.....	.....	.....	.....	.....	.....	.....	2.34	.....	0.85	6.0	10	18	4	8	.....	David Moore.
Cedar City	Iron	5,750	8	62.0e	.....	85	12	26	24†	43	0.81	.....	0.55	0	4	15	7	8	.....	Parley Dalley.
Center	Tooele	4,250	2	58.2	.....	88	5	22	25	51	0.54	.....	0.30	T.	3	12	12	6	n.	L. C. Peterson.
Clarkston	Cache	5,930	1	.....	.....	.....	.....	.....	.....	.....	1.63	.....	0.55	.....	5	12	8	10	.....	W. J. Griffiths.
Corinne	Boxelder	4,240	43	62.4	− 2.8	89	4†	29	26	47	1.70	+ 1.02	1.10	0	4	18	8	4	.....	A. C. Murphy.
Deseret	Millard	4,541	18	62.2	+ 1.7	92	5†	24	26	51	0.39	− 0.48	0.25	0	4	17	5	8	n.	S. W. Western.
Elberta	Utah	4,650	11	61.1	− 2.0	88	18	27	25	42	1.07	+ 0.16	0.46	0	11	16	6	8	n.	D. C. Walkey.
Enterprise	Washington	5,750	7	.....	.....	.....	.....	.....	.....	.....	0.66	.....	0.43	0	4	15	7	8	n.	Jas. E. Hall.
Erekson	Tooele	4,850	1	.....	.....	.....	.....	.....	.....	.....	0.64	.....	0.25	0	8	.....	.....	.....	.....	N. W. Erekson.
Farmington	Davis	4,267	12	59.5	− 0.5	85	5	31	26	40	1.40	+ 0.28	0.43	0	9	19	4	7	nw.	Chas. Boylin.
Fillmore	Millard	5,100	21	63.6	− 1.6	93	12†	31	26	46	1.14	− 0.08	0.35	0	7	.....	.....	.....	.....	J. J. Starley.
Garland	Boxelder	4,248	1	60.8	.....	89	5†	30	24	39	1.98	.....	0.75	0	5	13	10	7	n.	Herber C. Cutler.
Garrison	Millard	4,850	9	59.2a	.....	88	7†	17	25	47	T.	.....	T.	0	0	15a	2a	6a	s.	E. M. Smith.
Government Creek	Tooele	5,277	12	60.3	− 1.1	87	12	27	25	39	0.70	− 0.25	0.32	0	6	19	7	4	s.	Walter James.
Granger	Salt Lake	4,560	1	61.3b	.....	88	5	31	25	34	.....	.....	.....	.....	.....	.....	.....	.....	.....	Max Greene.
Grantsville	Tooele	4,220	6	.....	.....	.....	.....	.....	.....	.....	1.40	.....	0.57	0	7	18	10	2	sw.	Monto Barrus.
Grouse Creek	Boxelder	5,148	3	.....	.....	.....	.....	.....	.....	.....	0.60	.....	0.40	0	3	17	6	7	sw.	Philip Paskett.
Heber	Wasatch	5,593	20	55.4	± 0.0	86	5	20	20†	58	0.86	− 0.23	0.30	0	7	16	6	8	s.	John Crook.
Henefer	Summit	5,301	13	55.8	+ 0.8	86	6	21	26	54	1.84	+ 0.64	0.40	T.	9	15	6	9	nw.	Wm. Brewer.
Hooper	Weber	4,436	2	.....	.....	.....	.....	.....	.....	.....	0.80	.....	0.50	0	2	.....	.....	.....	.....	T. M. Jones, jr.
Ibapah	Tooele	7,500	8	57.2	.....	93	18	14	25†	54	1.16	.....	0.60	T.	8	16	13	1	n.	W. M. Chastain.
Ibex	Millard	5,250	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	John J. Watson.
Iosepa	Tooele	4,356	2	62.0	.....	100	7	28	25†	44	1.23	.....	0.50	0	4	15	3	12	n.	Geo. K. Hubbell.
Junction	Piute	6,000	1	.....	.....	.....	.....	.....	.....	.....	1.04	.....	0.30	0	7	19	9	2	s.	Jos. Jensen.
Kanosh	Millard	5,250	6	.....	.....	.....	.....	.....	.....	.....	0.70	.....	0.20	0	5	.....	.....	.....	.....	Geo. Crane.
Kelton	Boxelder	4,230	33	53.4	− 7.6	85	7	12	24	60	1.46	+ 0.98	0.42	0	5	10	15	5	n.	F. W. Klock.
Lemay	do	4,221	2	68.8	.....	87	8	48	22	24	1.23	.....	1.05	.....	4	18	9	3	.....	E. J. Ineck.
Levan	Juab	5,010	23	58.3	− 1.9	83	5	26	26	37	1.41	+ 0.14	0.34	T.	11	16	5	9	sw.	Wm. Brown.
Logan	Cache	4,507	22	60.6	− 0.9	86	5	31	25	36	1.47	+ 0.35	0.50	0	5	.....	.....	.....	.....	Experiment Station.
Low	Tooele	4,602	2	67.0	.....	98	5	34	23	48	0.00	.....	0.00	0	0	27	3	0	n.	Agent W. P. Co.
Lucin	Boxelder	4,504	6	61.0	.....	89	6	29	25	46	0.38	.....	0.38	0	1	21	9	0	.....	E. C. Puryear.
Manti	Sanpete	5,575	18	56.8	− 2.7	82	5	26	26	41	1.64	+ 0.34	0.48	0	10	11	17	2	.....	J. M. Anderson.
Maple Creek	Utah	4,890	2	.....	.....	.....	.....	.....	.....	.....	2.06	.....	0.61	0	8	15	5	10	.....	L. W. Gillilan.
Marion	Summit	6,400	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Woolstenhulme.
Marysvale	Piute	6,180	13	56.6	− 1.3	84	16†	25	27†	50	1.52	+ 0.23	0.34	0	9	.....	.....	.....	.....	Lafe King.
Meadowville	Rich	6,200	12	53.6	− 0.6	83	6	25	26†	40	1.92	+ 0.70	0.67	4.0	6	17	4	9	.....	J. S. Moffat.
Midlake	Boxelder	4,235	2	66.4	.....	80	6†	42	24	12	0.65	.....	0.50	0	2	16	7	7	e.	Mrs. S. M. Gibson.
Midvale	Salt Lake	4,365	1	61.6	.....	95	5	27	25	44	1.01	.....	0.37	0	6	11	14	5	s.	C. McGhie.
Milford	Beaver	4,962	5	62.9	.....	93	19†	22	29	48	0.13	.....	0.05	0	4	21	0	9	sw.	F. J. Bandreau.
Mills	Juab	4,911	1	59.0	.....	95	14	20	26	53	0.69	.....	0.23	0	6	.....	.....	.....	sw.	Geo. McCune.
Millville	Cache	4,848	18	.....	.....	.....	.....	.....	.....	.....	1.54	+ 0.38	0.32	0	8	12	14	4	n.	Fred Yeates.
Minersville	Beaver	5,070	11	.....	.....	.....	.....	.....	.....	.....	0.57	− 0.38	0.18	0	7	7	18	5	sw.	Fred R. Pryor.
Modena	Iron	5,479	12	59.7	− 0.5	86	18	27	24	42	0.98	− 0.14	0.52	0	6	18	8	4	w.	U. S. Weather Bureau.
Morgan	Morgan	5,068	8	57.5	.....	86	5†	25	26	49	0.88	.....	0.50	0	3	.....	.....	.....	.....	E. O. Kingston.
Moroni	Sanpete	6,000	5	.....	.....	.....	.....	.....	.....	.....	2.32	.....	0.49	0	8	5d	7d	14d	.....	B. F. Eliason.
Mosida	Utah	4,510	1	61.0	.....	90	3†	33	25†	44	0.58	.....	0.30	0	3	19f	0f	5f	.....	L. B. Curtis.
Nephi (near)	Juab	5,119	8	60.4e	.....	87	1†	27	26	43	1.12	.....	0.25	.....	8	14	10	6	s.	Experiment Station.
New Castle	Iron	5,150	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	T. W. Jones.
Oak City	Millard	4,900	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Nielson.
Ogden	Weber	4,310	42	60.1	− 5.0	89	5	26	25	44	1.19	+ 0.40	0.36	0	8	16	7	7	w.	A. Van De Graaff.
Panguitch	Garfield	6,560	1	52.4	.....	77	18	21	24†	47	1.77	.....	0.68	T.	7	20	5	5	nw.	Harry L. Strembel.
Park City	Summit	7,000	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gertrude Evans.
Park Valley	Boxelder	5,200	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. W. Goodliffe.
Parowan	Iron	5,970	22	59.4	+ 0.1	85	12	26	25	43	0.67	− 0.51	0.30	0	6	8	7	15	.....	Alex. Matheson.
Payson	Utah	4,637	9	.....	.....	.....	.....	.....	.....	.....	1.50	.....	0.55	0	7	17	4	9	sw.	D. L. Coombs.
Pelican Point	do	4,600	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	B. M. Mendenhall.
Pineview	Summit	.....	.....	53.6e	.....	82	5	17	27	52	1.30	.....	0.40	0	4	.....	.....	.....	.....	Granville Deming.
Pinto	Washington	5,907	15	54.9d	− 1.3	83	12	23	26†	50	0.62	− 0.90	0.60	0	2	12b	11b	5b	s.	J. H. Harrison.
Plentiful	Tooele	4,262	0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. L. Drumm.
Promontory	Boxelder	4,913	38	.....	.....	.....	.....	.....	.....	.....	0.30	− 0.32	0.20	0	2	.....	.....	.....	.....	F. C. Houghton.
Provo	Utah	4,532	19	60.8c	− 0.1	87	5†	28	27	49	1.99	+ 1.23	1.08	0	9	17c	5c	5c	.....	W. L. Whittemore.
Randolph	Rich	6,442	9	.....	.....	.....	.....	.....	.....	.....	2.26	.....	0.90	0	10	16	10	4	.....	Wm. Rex.
Revier	Salt Lake	5,066	2	.....	.....	.....	.....	.....	.....	.....	1.55	.....	0.36	0	6	.....	.....	.....	.....	E. L. Terry.
Richfield	Sevier	5,350	19	58.8b	− 0.2	89	3	25	26	50	1.30	+ 0.61	0.40	0	8	13b	9b	15b	.....	P. A. Westman.
Richmond	Cache	4,529	1	.....	.....	.....	.....	.....	.....	.....	1.22	.....	0.42	0	9	14	12	4	.....	J. R. Thompson.
Sahara	Iron	5,209	0	61.0	.....	90	18	23	24	50	0.59	.....	0.28	0	4	21	8	1	sw.	Earl Markwith.
Saltair	Salt Lake	4,220	9	62.8	.....	82	6	38	23†	24	2.10	.....	1.20	0	8	.....	.....	.....	.....	E. J. Bench.
Salt Lake City	do	4,360	39	63.4	− 1.6	87	12	37	23	34	0.93	+ 0.08	0.35	T.	10	16	8	6	nw.	U. S. Weather Bureau.
Scipio	Millard	5,260	18	59.4	− 0.6	88	12	24	26	52	1.23	+ 0.07	0.25	T.	10	10	6	14	sw.	Thos. Memmott.
Showell	Boxelder	4,650	1	57.4	.....	89	6	16	25	54	1.47	.....	0.55	0	6	18	12	0	.....	Richard Ilgner.
Silver City	Juab	6,127	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. L. Stark.
Smyths	Beaver	4,900	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	V. Waddoups.
Soldier Summit	Utah	7,454	12	50.8	− 0.1	80	21	21	26	53	2.89	+ 2.20	1.15	.....	10	12	14	4	.....	Geo. A. Boyd.
Spanish Fork	do	4,585	4	62.8	.....	89	5†	32	25	40	1.79	.....	0.44	T.	8	18	8	4	.....	Reclamation Service.
Spring Dale	Juab	.....	.....	58.2	.....	89	18	21	27	47	0.71	.....	0.38	0	3	22	1	7	.....	James Coleman.
Strawberry, West	Utah	7,500	5	52.9b	.....	79	5	23	22	38	4.14	.....	1.00	5.0	12	14	5	11	.....	Reclamation Service.
Thistle	do	5,075	14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	John Thorgierson.
Tooele	Tooele	4,900	17	60.2e	− 3.2	85	5	32	23†	40	1.66	+ 0.69	0.51	.....	6	1e	13e	13e	s.	E. A. Bonelli.

TABLE 1.—*Climatological data for September, 1913. District No. 10, Great Basin*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, 0.01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
***Utah*—Continued.**																				
Utah Lake Pump'g Sta.	Utah	4,500	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. A. Knight.
Vernon	Tooele	5,500	2	.....	.....	.....	.....	.....	.....	.....	1.41	.....	0.50	0	8	7	17	6	sw.	Glynn Bennion.
Wendover	....do	4,237	1	63.3	.....	93	2	28	25†	45	0.79	.....	0.55	0	4	.....	.....	.....	.....	J. S. Cooper.
Whiskey Creek	Millard	4,050	2	.....	.....	.....	.....	.....	.....	.....	0.10	.....	0.10	0	1	.....	.....	.....	.....	Geo. Stevens.
Winder	Garfield	7,000	0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rollo Adair.
Woodruff	Rich	6,500	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Oregon.																				
Burns	Harney	4,157	21	57.8	+ 3.9	89	1	26	24†	54	0.15	− 0.66	0.15	0	1	23	4	3	.....	J. C. Welcome, jr.
Cliff	Lake	4,300	6	51.0	.....	89	7	13	23	61	0.36	.....	0.36	0	1	18	9	3	n.	John C. Green.
Paisley	....do	4,500	10	57.6	.....	88	17	27	22†	45	0.42	.....	0.42	0	1	29	1	0	n.	C. M. Sain.
Seneca	Grant	4,800	3	49.8	.....	85	7†	8	24	68	T.	.....	T.	0	0	24	5	1	nw.	E. J. Southworth.
Silver Lake	Lake	4,700	16	56.8	+ 3.2	91	20†	20	26	57	0.07	− 0.56	0.07	0	1	26	4	0	n.	G. W. Marvin.
California.																				
Bridgeport	Mono	6,500	0	52.8	.....	84	18	16	26	54	0.13	.....	0.10	0	3	25	5	0	sw.	A. F. Scott.
Cathedral Park	Eldorado	6,400	0	59.6	.....	86	18	31	23	40	0.01	.....	0.01	0	1	24	2	4	s.	Carl Fluegge.
Tahoe	Placer	6,240	2	53.8	.....	80	18	25	24†	39	0.10	.....	0.10	0	1	28	1	1	w.	R. M. Watson.
Truckee	Nevada	5,819	41	59.8	+ 3.9	88	14	35	24†	45	0.00	− 0.30	0.00	0	0	30	0	0	.....	Southern Pacific Co.
Nevada.																				
Austin	Lander	6,594	24	61.8	+ 2.8	88	20	25	24	39	0.48	− 0.03	0.33	0	2	27	0	3	nw.	F. O. Booe.
Battle Mountain	....do	4,843	42	62.9	+ 0.4	95	2	22	24†	58	0.67	+ 0.38	0.47	0	2	23	1	6	.....	Southern Pacific Co.
Beowawe	Eureka	4,905	42	57.8	− 5.4	92	6	21	26	56	0.50	+ 0.22	0.30	0	2	17	10	3	.....	Do.
Carlin	Elko	5,232	42	59.1[a]	+ 1.5	95	18	17[a]	25†	61[a]	1.00	+ 0.78	1.00	0	1	6	23	1	.....	Do.
Cherry Creek	White Pine	6,450	5	58.4	.....	84	6	27	25	40	0.52	.....	0.20	T.	6	20	4	6	w.	J. H. Leishman.
Clover Valley	Elko	6,000	12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I. F. Wiseman.
Columbia	Esmeralda	5,750	6	64.0	.....	89	12†	31	25	40	2.20	.....	1.72	0	2	25	5	0	se.	A. Booth.
Dry Farm	Elko	5,600	1	60.1	.....	86	29	21	25	44	0.44	.....	0.22	0	4	.....	.....	.....	.....	Walfrid Sohlman.
East Rochester	Humboldt	7,500	0	61.5	.....	82	6†	31	23	26	T.	.....	T.	T.	0	27	3	0	w.	E. B. Mills.
Elko	Elko	5,432	42	61.5	+ 4.7	97	7	20	26	60	0.89	+ 0.63	0.69	0	4	2	2	7	sw.	Western Pacific Co.
Eureka	Eureka	6,500	15	59.5	− 3.2	88	20	22	25	40	0.57	− 0.04	0.25	0	6	17	8	5	s.	Clay Simms.
Fallon	Churchill	3,965	19	64.5	.....	95	18	27	26	48	0.03	− 0.15	0.03	0	1	23	6	1	sw.	U. S. Experiment Station.
Fernley	Lyon	4,200	40	64.8	+ 1.8	95	18	26	24	51	0.00	− 0.18	0.00	0	0	24	6	0	.....	Mrs. G. A. Steele.
Gardnerville	Douglas	4,830	22	59.8**	− 1.5	89*	17	28*	24†	46*	0.00	− 0.22	0.00	0	0	.....	.....	.....	w.	Forest Service.
Gerlach	Washoe	3,931	0	62.4	.....	85	1†	34	24†	37	0.00	.....	0.00	0	0	24	0	6	nw.	Western Pacific Co.
Geyser	Lincoln	6,055	9	52.8	.....	85	4†	10	30	67	0.40	.....	0.40	0	1	15	14	1	s.	Mrs. J. F. Wambolt.
Gleabrook	Douglas	6,240	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. C. Henningsen.
Golconda	Humboldt	4,697	34	62.6	+ 1.0	92	1	29	23	50	0.11	− 0.20	0.10	0	2	15	8	7	.....	Southern Pacific Co.
Halleck	Elko	5,631	20	56.4	+ 0.4	89	7	25	30	50	0.19	− 0.06	0.11	0	2	22	6	2	w.	Do.
Jean	Clark	2,674	5	75.8	.....	103	6	35	25	38	0.23	.....	0.23	0	2	20	9	1	sw.	Salt Lake Route.
Lahontan	Churchill	4,200	1	68.0	.....	95	18	36	23	43	0.05	.....	0.05	0	1	26	3	1	w.	U. S. Reclamation Service.
Lewers Ranch	Washoe	5,500	25	61.2	+ 0.9	90	17	29	24	45	0.00	− 0.66	0	0	0	14	14	2	.....	Ross Lewers.
Lida	Esmeralda	6,037	0	60.8[a]	.....	86[a]	19	33[a]	23	35[a]	0.36	.....	0.36	0	1	27	3	0	se.	L. F. Detwiler.
Lovelock	Humboldt	3,977	19	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. P. Tilford.
McDermit	....do	4,700	23	61.0	0	89	12	25	24	42	0.75	+ 0.45	0.72	0	2	22	7	1	w.	F. M. Bullock.
McGill	White Pine	6,338	22	61.9	+ 6.7	87	5	25	26	45	0.20	− 0.52	0.20	0	1	19	8	3	n.	R. E. Middagh.
Millett	Nye	6,002	5	60.4	.....	89	1	22	25	50	0.52	.....	0.36	0	2	20	5	5	.....	Fred J. Jones.
Mina	Mineral	4,600	6	66.8	.....	94	18	28	26	40	0.95	.....	0.30	0	4	22	2	6	s.	Southern Pacific Co.
Oasis Ranch	Esmeralda	5,106	0	61.0	.....	86	12	31	26†	40	0.30	.....	0.28	0	2	27	3	0	s.	A. S. Patterson.
Potts	Nye	6,990	20	52.6	− 3.1	82	4†	16	25	43	0.05	− 0.23	0.03	0	2	15	5	10	n.	Miss Maude Potts.
Quinn River Ranch	Humboldt	4,850	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Payne.
Rebel Creek	....do	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. J. Hyatt.
Reno	Washoe	4,532	42	63.6	+ 3.9	91	18	32	24	41	0.08	− 0.19	0.08	0	1	28	2	0	w.	U. S. Weather Bureau.
Soda Lake	Churchill	4,534	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	U. S. Reclamation Service.
Tecoma	Elko	4,812	35	56.2	− 4.2	90	1†	20	25†	60	0.13	− 0.24	0.05	0	4	20	4	6	.....	Southern Pacific Co.
Tonopah	Nye	6,090	8	63.8	.....	85	20	31	30	31	0.62	.....	0.53	0	3	22	7	1	se.	U. S. Weather Bureau.
Wells	Elko	5,631	41	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Southern Pacific Co.
Winnemucca	Humboldt	4,432	34	61.8	+ 1.3	91	7	25	24	49	0.51	+ 0.17	0.37	0	3	23	5	2	ne.	U. S. Weather Bureau.

[a], [b], [c], etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.
** Temperature extremes are from observed readings of the dry bulb; means are computed from observed readings.
† Also on other dates.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 2.—*Daily precipitation for September, 1913. District No. 10, Great Basin.*

Stations.	Watershed.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Wyoming.																															
Border	Bear			T.					.06	.36	.08			.06	.14								.33	T.	T.					.04	T.	0.24
Cokeville	do		.18	T.				.06	.36	.08					.27								.33	T.	T.					T.	T.	1.28
Evanston	do	.43	T.	.06				.18	.06					T.	.16								.28	T.	T.							1.17
Idaho.																															
Geneva	Bear								.35														.28	.04	.03					.04		0.74
Grace	do																														
Paris	do																		.20				.10							.15	.05	0.50
Weston	do			.60					.51	.04				.10									.14	.05							.04	1.48
Utah.																															
Alpine	G. S. Lake								.45														.50									0.95
Beaver	Sevier Lake	.40	.97	.20			.16	.17	.03					T.									.15	.08							.16	2.52
Black Rock	do	.10		.63				.07						T.																	0.80
Brigham City	G. S. Lake	.20	.16	.12					.16						.82							.07	.17	.02								1.72
Burrville	Sevier Lake	.45					.09	.13		.10				.20										.20	.10	.01						1.28
Castle Rock	G. S. Lake	.85		.10			.50	.12	.05					.02	.05								.20	.15	.30							2.34
Cedar City	Desert							.15				.08											.55								.03	0.81
Center	do	T.	.30											T.									.20	.04								0.54
Clarkston	G. S. Lake		.35	.55				.45	.10						.18																	1.63
Corinne	do	1.10							.30					.20								.10										1.70
Deseret	Sevier Lake							.07						.25								.04	T.								.03	0.39
Elberta	G. S. Lake	.01	.07	.03				.12	.01					.04	.25							.01	.46	.04	.03							1.07
Enterprise	Desert	.07					.12					.04										.43										0.66
Erekson	do	.03	.01				.05	.10						.10								.25		.03						.07		0.64
Farmington	G. S. Lake		.43	.25				.05	.25	T.				T.						.03	.02	.25	T.	.07	.05							1.40
Fillmore	Sevier Lake	.44	T.	.12					T.					.35	.05							T.	.10		.07						.01	1.14
Garland	G. S. Lake	.10	.44					.75	.19													.50										1.98
Garrison	Desert	T.												T.								T.							T.		T.
Government Creek	do	T.	.12	T.		T.	.03	.06						.12								T.	.32	.05					T.		0.70
Granger	G. S. Lake																														
Grantsville	do	.33	.25					.09						.02									.12	.57							.02	1.40
Grouse Creek	Desert	T.		.40				T.	.13													T.	.07	T.					T.		0.60
Heber	G. S. Lake		.10	.10				T.	.05	.06					.20								.30	.05								0.86
Henefer	do	.40	.32	.10			.37	.05	.14	.06				T.	.05								.35	T.	T.						T.	1.84
Hooper	do			.30																		.50										0.80
Ibapah	Desert	.20	.60	.04										.16								T.	.02	.02	.09						.03	1.16
Ibex	do																														
Iosepa	do	.50	.16	.07									T.										T.	.50								1.23
Junction	Sevier Lake			.08	.14	T.		.30	.11	.06				.23									.12									1.04
Kanosh	do							.20						.08								.11	.15								.16	0.70
Kelton	G. S. Lake	.30	.22	.35					.42	.17					T.																	1.46
Lemay	Desert	1.05	.02						.06													.10										1.23
Levan	Sevier Lake		.06	.34			.05	.23	.04					.31	.13							.04	T.	.13	.03						.05	1.41
Logan	G. S. Lake	.25	.20					.09						.50								.43										1.47
Low	Desert																															0.00
Lucin	do		.38	T.				T.																T.								0.38
Manti	Sevier Lake	.03		.24			.23	.48	.12	.02	T.			.09	.10								.21	T.							.12	1.64
Maple Creek	G. S. Lake	.09	T.	.41				.07						T.	.44								.61	.31	.09	T.				T.	.04	2.06
Marysvale	Sevier Lake	.26		.20			.34	.20	.14		.02			.23										.11	.02							1.52
Meadowville	G. S. Lake	.10	T.					.30		.25					.67								T.	*	.60							1.92
Midlake	do	.50	.15					T.	T.	T.												T.	T.	T.								0.65
Midvale	do	.30						.01														.37	.10	.02							.21	1.01
Milford	Sevier Lake			.01																		.05						.05	.02			0.13
Millville	G. S. Lake		.11	.11				.04	.13	.16				.61									.32	.06							T.	1.54
Mills	Sevier Lake	T.		.22				.04	.12	T.	T.	T.		T.	.23	T.						T.	.03	T.	.05	T.					T.	0.69
Minersville	do	.05		.04			.01	T.		.18	T.				T.							.10	.10							.09		0.57
Modena	Desert	.03	.01				.52		.02				T.	.01	T.							.39										0.98
Morgan	G. S. Lake	.50	.20	.18																												0.88
Moroni	Sevier Lake	.16	.40	.49		T.	T.	.28	.26					.14	.41									.18						T.		2.32
Mosida	G. S. Lake		T.												.08									.20	.30							0.58
Nephi (near)	do	.02	.21	T.				.16	T.					*	.34							.25	T.	.10	.04						T.	1.12
Newcastle	Desert																															
Oak City	Sevier Lake																															
Ogden	G. S. Lake	.36	.10	.03					.09					.19									.35	.05							.02		1.19
Panguitch	Sevier Lake	.42	T.	.30			T.	.58	.10		.04				.16							.17	T.									1.77
Park City	G. S. Lake																															
Park Valley	Desert																															
Parowan	do	.07		.08	T.		.12		.07	T.												.30									.03	0.67
Payson	G. S. Lake	.10						.15	.10						.30								.55	.25	.05							1.50
Pelican Point	do																															
Pineview	do			.20				.30							.40								.40									1.30
Pinto	Desert	.02																					.60	T.								0.62
Plentiful	G. S. Lake																															
Promontory	do	.20														.10																0.30
Provo	do	1.08	.02	.04			T.	.06		.05					.21								.40	.11	.02							1.99
Randolph	do	.16	.14	.23			.08	.40							.90							.08	T.	.17						.03	.07	2.26
Revier	do		.36						.27												.22	.33	.30								.07	1.55
Richfield	Sevier Lake			.19			.16	.09	.40	.07				.16	.16									.07									1.30
Richmond	G. S. Lake	.05	.21	.01				.11	.14					.42	.03							.19	.06	T.						T.	T.	1.22
Sahara	Desert	.28				T.	T.	.01	.08					T.								T.	.22	T.								0.59
Saltair	G. S. Lake		1.20	.04				T.	.03					T.	.01								.10	.60	.11						.01	2.10
Salt Lake City	do	.04	.21	.13				.04	.01					T.								.03	.31	.05	.03						.08	0.93
Scipio	Desert	.03	.04	.16			.12	.15	T.	T.	.12			.04	.25								.22	.10							T.	1.23
Showell	do	.08	.55						.33	.15				.10								.26										1.47
Silver City	do																															
Smyths	do																															
Soldier Summit	G. S. Lake	.13	.08	.21		T.	.04	.13	.02	T.		.53		T.	.30								1.15	.30	T.							2.89
Spanish Fork	do		.02	.28			.04	.13							.33							T.	.40	.15	.44							1.79
Springvale	Sevier Lake			.38			T.							.10	.23															T.		0.71
Strawberry, west	G. S. Lake	.40	.06	.64			.67	.06	.13	.05					.67									1.30	.05						.11	4.14
Thistle	do																															
Tooele	do		.25	T.				T.	.47				T.									T.	.25	.51	.11						.07	1.66
Utah Lake P. S.	do																															
Vernon	Desert	.50	.06					T.				.15		.09									.32	.14							.05	.10	1.41
Wendover	do	.02		.55										.14							.08											0.79
Whiskey Creek	do													.10																		0.10
Winder	Sevier Lake																															
Woodruff	G. S. Lake																															

TABLE 2.—*Daily precipitation for September, 1913. District No. 10*—Continued.

Stations.	Watershed.	Day of month.																												Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Oregon.								*																						
Ana River	S. E. drainage																												.23			0.23
Bear Valley	do																												T.	.08		0.08
Burns	do																												.15			0.15
Burns Mill	do																															
Christmas Lake	do																															
Cliff	do																												T.	.36		0.36
Diamond	do			T.																		T.								.38		0.38
Embody	do			.08																		.06							.13			0.27
Fort Rock	do																					T.							.03			0.03
Paisley	do																					T.								.42		0.42
Seneca	do																												T.	T.		T.
Silver Lake	do																													.07		0.07
Valley Falls	do																														.30	0.30
California.																																
Bijou	Truckee																															
Boca	do												.02	.01								.10										0.00
Bridgeport	East Walker																															0.13
Cathedral Park	Truckee																												T.			0.01
Deer Park	do																															0.00
Hobart Mills	do																													.20		0.20
Lundy	East Walker							.45					.35								.45					T.						1.25
McKinney	Truckee																															
Markleeville	East Carson							T.																								T.
Shields Ranch	East Walker																															0.00
Silver Creek	East Carson			.06				.11																								0.17
Tahoe	Truckee																													.10		0.10
Tallac	do							T.																								T.
Truckee	do																															0.00
Woodfords	West Carson																															
Nevada.																																
Arthur	Humboldt								.60													.26										0.86
Austin	Reese							.33						.15																		0.48
Battle Mountain	Humboldt		.20					T.						.47																		0.67
Beowawe	do			.20					.30													T.										0.50
Carlin	do		1.00																													1.00
Cherry Creek	do			.04			.03	.03				.04		.18								.20										0.52
Clover Valley	do																															
Columbia	Desert													1.72	.48																	2.20
Dry Farm	Humboldt	.02		.22					.18													.02										0.44
East Rochester	do																					T.								T.		T.
Elko	do	T.	.69					.18	.01				.01							T.		T.										0.89
Eureka	do	.04						.03					.08	.25								.10								.07		0.57
Fallon	Carson													.03																		0.03
Fernley	Truckee																															0.00
Gardnerville	Carson																															0.00
Gerlach	Desert																															0.00
Geyser	Humboldt	T.													T.							.40										0.40
Glenbrook	Truckee																															
Golconda	Humboldt							.01																						.10		0.11
Halleck	do		.11					.08																								0.19
Hylton	do																															0.00
Jean	Desert						T.						*	.23																		0.23
Lahontan	Carson							.05																								0.05
Lewers Ranch	Truckee																															0.00
Lida	Desert													.36																		0.36
Lovelock	Humboldt																															
McDermit	do							T.	T.				T.											.03						.72		0.75
McGill	do													.20								T.										0.20
Metropolis	do	T.	.12					.18						T.								T.								.30		0.30
Mill City	do																													.30		0.30
Millett	Reese	.36												.16																		0.52
Mina	Desert	.25	.25	.30										.15																		0.95
North Fork	Humboldt		.03											.02																		
Oasis Ranch	Desert	.02											T.	.28								T.										0.30
Potts	Reese							.02					T.	.03																		0.05
Quinn River Ranch	Quinn																															
Rebel Creek	do																															
Reno	Truckee							T.													T.								.08			0.08
Rose Creek	Humboldt																					.12								.51		0.63
Smith	West Walker													T.																		T.
Soda Lake	Carson																															
Spooners Ranch	Truckee																															0.00
Tecoma	Humboldt	.03	.05	.02					.03																							0.13
Tonopah	Desert	.07	.02											.53																		0.62
Wells	Humboldt																															
Willow Point	Little Humb'dt																															
Winnemucca	Humboldt								.01					T.								.13							T.	.37		0.51

* Precipitation included in that of the next measurement.
‡ Separate dates of falls not recorded.
‖ Precipitation for the 24 hours ending on the morning when it is measured.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 3.—*Maximum and minimum temperatures for September, 1913. District No. 10, Great Basin.*

Date.	Wyoming.				Weston, Idaho.		Utah.																	
	Border.		Evanston.				Black Rock.		Corinne.		Government Creek.		Marysvale.		Meadowville.		Modena.		Ogden.		Parowan.		Spanish Fork.		Salt Lake City.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	77	50	70	48	86	59	80	61	81	55	81	61	75	49	79	52	73	58	83	56	75	54	86	61	81	65
2	73	46	69	54	77	58	81	59	77	59	77	58	72	52	73	52	74	57	76	58	73	54	77	62	76	61
3	71	51	69	48	77	53	80	54	86	60	80	56	72	54	75	44	78	53	87	55	75	55	81	57	80	63
4	79	35	77	41	85	46	87	44	89	59	85	53	80	47	78	40	83	48	85	50	83	49	86	53	84	57
5	83	39	80	43	87	67	90	47	85	51	84	55	80	43	82	43	84	50	89	50	82	53	89	56	87	60
6	83	40	77	46	91	50	85	56	86	50	83	60	68	54	83	46	79	56	87	52	74	56	84	60	86	66
7	86	58	65	49	78	53	77	55	80	55	70	61	65	55	67	48	72	54	75	55	73	55	72	62	74	63
8	71	45	69	51	77	58	82	47	87	54	82	57	75	49	72	54	78	51	80	60	75	49	85	64	80	63
9	76	39	70	44	78	50	84	49	79	54	83	59	79	47	74	44	80	47	82	56	79	53	86	56	79	59
10	74	33	75	36	79	40	88	40	89	59	81	46	82	43	73	37	81	47	83	55	81	53	85	55	76	54
11	74	32	76	36	87	36	87	46	84	45	84	49	83	41	75	39	82	49	84	52	81	47	86	55	83	58
12	82	32	76	37	86	42	90	41	88	55	87	53	80	40	76	38	82	49	86	43	85	52	89	52	87	59
13	76	36	70	40	82	50	76	47	86	58	74	55	80	46	75	44	71	51	79	55	72	57	83	53	79	62
14	71	44	65	47	78	53	79	51	82	53	75	53	71	45	71	48	77	51	77	52	75	46	76	56	75	59
15	70	30	64	35	76	36	81	38	84	43	74	45	75	39	68	40	80	46	75	43	78	44	77	49	72	54
16	71	28	67	32	78	37	78	36	75	45	74	43	84	37	66	36	78	46	78	39	78	48	77	47	73	52
17	74	28	72	32	81	36	85	34	85	50	79	43	79	36	70	34	81	42	80	42	81	42	88	48	81	54
18	78	28	72	33	85	40	90	38	80	55	85	52	84	35	76	45	86	44	83	39	85	43	77	45	83	55
19	76	29	68	40	75	40	82	38	81	42	74	41	77	40	69	40	81	49	75	41	78	48	81	47	72	54
20	76	22	75	26	78	30	84	27	73	38	76	37	80	28	70	30	82	40	78	34	80	37	79	41	76	49
21	76	24	72	29	81	35	88	35	69	35	85	48	83	35	69	32	83	48	83	40	84	45	81	46	84	50
22	66	29	65	35	65	36	69	43	65	37	58	39	80	44	58	33	69	37	55	42	73	46	67	41	57	40
23	45	31	48	28	50	34	51	30	66	34	45	31	50	28	50	30	52	30	52	35	49	28	47	34	49	37
24	55	16	43	23	51	31	55	23	78	35	46	34	50	27	48	29	52	27	52	32	56	28	49	35	49	38
25	67	17	53	22	63	21	60	20	79	32	56	27	54	30	50	27	56	33	60	26	58	26	59	32	56	38
26	68	20	65	23	70	24	68	18	67	29	63	30	65	27	56	25	66	28	67	28	67	27	66	35	62	39
27	70	22	67	26	74	27	75	20	66	35	70	34	73	25	60	25	72	32	72	32	73	30	71	39	67	43
28	70	22	68	27	76	29	79	23	68	40	73	39	75	25	68	31	75	42	75	33	76	34	76	40	73	44
29	70	28	66	28	69	34	75	32	71	33	65	47	73	30	69	31	70	39	72	36	70	34	73	41	69	50
30	55	32	60	30	65	40	65	37	70	35	62	40	73	34	62	34	63	36	68	38	65	34	67	41	64	49
Mns.	72.1	32.9	67.8	36.3	76.2	41.5	78.4	39.6	78.5	46.2	73.7	46.9	73.8	39.5	68.7	38.4	74.7	44.7	75.9	44.3	74.5	44.2	76.7	48.8	73.8	53.2

Date.	Burns, Oreg.		Nevada.																							
			Cherry Creek.		East Rochester.		Elko.		Eureka.		Fallon.		Jean.		McDermitt.		Millet.		Mina.		Reno.		Tecoma.		Tonopah.		Winnemucca.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	89	40	78	55	75	55	90	49	76	54	87	57	98	72	82	53	89	50	89	56	82	57	90	40	72	54	85	59
2	86	40	81	55	75	54	85	50	77	53	87	54	99	72	80	47	86	50	82	55	78	54	90	44	71	50	84	53
3	87	38	75	55	72	52	81	45	79	45	85	57	99	73	77	50	81	44	84	47	76	57	90	38	75	54	80	52
4	85	36	79	47	77	54	90	40	82	48	88	50	98	75	82	47	84	45	89	53	85	49	85	34	80	57	86	47
5	80	40	82	50	79	53	93	42	86	50	88	50	101	74	85	49	86	44	88	54	86	48	86	37	82	60	87	47
6	82	42	84	50	82	58	94	48	87	50	91	49	103	74	85	51	87	45	88	56	89	50	90	41	84	62	90	46
7	80	38	74	54	82	62	97	52	82	54	91	52	101	72	87	53	82	56	92	52	85	54	90	37	77	63	91	54
8	82	29	78	54	77	58	86	48	81	52	88	60	99	73	83	54	83	45	90	55	80	55	90	41	79	57	84	57
9	78	34	78	47	71	48	82	48	81	44	83	44	99	75	73	44	83	41	90	46	83	45	87	36	79	58	78	49
10	73	41	79	45	78	54	90	38	82	41	86	45	98	73	80	44	83	37	88	46	85	46	85	30	80	58	84	45
11	74	38	78	49	80	58	92	43	83	55	90	45	100	68	88	54	85	40	89	47	88	48	85	32	82	63	90	49
12	76	40	83	50	81	64	90	52	85	59	94	52	100	67	89	50	86	46	88	62	88	53	85	31	83	65	90	57
13	78	36	72	47	76	56	84	55	69	52	88	61	98	67	84	57	75	51	85	72	82	53	85	34	70	50	85	55
14	80	33	73	45	74	54	79	43	76	41	84	46	90	60	77	40	79	39	84	68	82	47	82	31	73	50	81	45
15	81	29	75	41	72	54	83	35	77	40	85	43	93	60	78	43	82	41	84	50	85	47	82	21	78	56	82	40
16	85	31	73	45	77	52	89	39	78	39	84	50	92	59	82	45	81	45	88	63	85	47	82	21	78	57	81	47
17	83	34	79	40	82	58	90	38	85	45	92	45	89	59	88	51	87	40	92	50	90	49	85	32	82	61	91	43
18	78	30	84	52	80	60	92	40	85	50	95	50	89	61	83	51	88	41	94	54	91	51	82	31	85	59	88	47
19	76	29	76	46	78	57	88	38	81	43	87	47	90	62	81	40	85	55	92	55	85	51	82	30	84	66	82	43
20	79	34	79	40	82	61	93	34	88	44	89	44	91	60	87	48	88	38	92	49	87	49	85	31	85	65	89	40
21	80	32	80	52	73	52	95	40	79	55	84	58	88	58	72	56	79	68	88	58	78	58	80	22	81	59	78	55
22	86	36	63	39	54	34	78	32	68	40	67	52	88	57	59	31	70	50	82	58	66	43	80	21	61	38	59	40
23	85	34	48	30	45	31	53	32	53	27	61	35	85	40	57	34	58	33	64	36	59	37	80	21	53	35	59	31
24	80	26	48	30	56	34	65	25	55	24	65	30	80	38	62	25	60	24	66	32	68	32	65	21	58	37	63	25
25	76	30	55	27	62	38	72	22	42	22	71	30	70	35	69	30	67	22	70	29	73	34	70	20	63	41	68	27
26	82	32	66	29	67	43	80	20	73	28	75	27	68	37	74	32	78	23	72	28	75	34	82	21	68	47	74	25
27	81	31	72	35	70	48	80	25	77	38	80	38	86	48	78	43	79	27	80	37	79	40	80	21	73	51	79	35
28	80	30	74	34	68	50	83	28	78	36	83	39	85	39	77	40	78	30	82	38	79	40	80	20	75	53	80	34
29	78	28	62	33	62	34	80	26	67	36	75	40	87	50	64	35	70	46	78	47	62	43	80	21	58	37	50	39
30	79	26	61	40	57	35	73	37	59	35	65	33	85	40	62	34	65	27	68	35	67	46	79	20	62	31	64	36
Mns.	80.6	33.9	73.0	43.9	72.1	50.7	84.2	38.8	75.0	43.3	82.9	46.1	91.6	59.9	77.5	44.4	79.5	41.4	83.9	49.6	79.9	47.2	83.1	29.3	74.4	53.3	79.4	44.1

[a], [b], [c], etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.
§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.

CLIMATOLOGICAL DATA FOR SEPTEMBER, 1913.

DISTRICT NO. 11, CALIFORNIA.

Local Forecaster G. H. WILLSON, District Editor.

GENERAL SUMMARY.

September, 1913, was a very warm and dry month with an abundance of sunshine and very little fog along the coast. The mean temperature for the State (70.7°) was, with two exceptions, the highest for any September since the records began in 1897. There was a period of very warm weather from the 15th to the 18th, when the maximum temperatures in the coast section from San Francisco Bay southward equaled and in some places exceeded all previous records of high temperature. At San Francisco, where the record covers a period of 40 years, the highest previous record (101°) was equaled, and at San Diego with the same length of record the maximum temperature (110°) on the 17th exceeded the former record by 9°. During this period the day temperatures ranged from 100° to 114° in the Great Valley, but these do not break the records for that section, although they equaled them at some places. In the mountains the temperatures were also very high, but records were not broken.

The month was an ideal one for harvesting and curing the fruit and raisin crop. In the fruit belt there was over 90 per cent of the possible sunshine during the month and the atmosphere was very dry, making the weather conditions most favorable.

The precipitation was mostly in the form of thundershowers and was very light and generally confined to the higher levels and the extreme northwestern portion of the State. This was one of the driest Septembers on record. Many springs ceased to flow, and the rivers in all parts of the State approximated the lowest stages known. Water and power companies were taxed to their limits, and there was not sufficient water for irrigation purposes in most sections.

A noteworthy feature of the month was the numerous forest fires caused by lightning. Owing to the light precipitation during the past two years the forest floor had become very dry, so that in many instances where lightning struck it set fire to the parched underbrush and débris.

TEMPERATURE.

The mean temperature for the State was 2.2 degrees above the normal. The following table gives the means and departures for each September from 1897 to 1913, inclusive:

Year.	Mean.	Departure.	Year.	Mean.	Departure.
	°F.	°F.		°F.	°F.
1897	67.7	−0.8	1906	68.6	+0.1
1898	69.2	+0.7	1907	65.6	−2.9
1899	70.9	+2.4	1908	68.1	−0.4
1900	65.4	−3.1	1909	68.2	−0.3
1901	66.0	−2.5	1910	67.3	−1.2
1902	70.7	+2.2	1911	63.9	−4.6
1903	68.7	+0.2	1912	66.5	−2.0
1904	70.3	+1.8	1913	70.7	+2.2
1905	68.6	+0.1			

PRECIPITATION.

The following table gives the average precipitation and departure from the normal for each September from 1897 to 1913, inclusive:

Year.	Average.	Departure.	Year.	Average.	Departure.
	Inches.	Inches.		Inches.	Inches.
1897	0.03	−0.46	1906	0.25	−0.24
1898	0.64	+0.15	1907	0.13	−0.36
1899	0.03	−0.46	1908	0.49	0.00
1900	0.22	−0.27	1909	0.52	+0.03
1901	0.94	+0.45	1910	0.69	+0.20
1902	0.01	−0.48	1911	0.19	−0.30
1903	0.10	−0.39	1912	1.65	+1.16
1904	2.66	+2.17	1913	0.07	−0.42
1905	0.16	−0.33			

The greatest monthly amount was 1.37 inches at Weitchpec and the greatest 24-hourly amount was 1.17 inches at Descanso on the 12th. There was no rainfall at 133 stations.

The following table gives the hours of sunshine and the percentage of the possible:

Stations.	Hours.	Percentage of possible.	Stations.	Hours.	Percentage of possible.
Eureka	217	58	Sacramento	361	97
Fresno	353	95	San Diego	310	84
Los Angeles	305	82	San Francisco	318	85
Mount Tamalpais	348	93	San Jose	332	89
Red Bluff	326	87	San Luis Obispo	293	79

NOTES ON THE RIVERS OF THE SACRAMENTO AND LOWER SAN JOAQUIN WATERSHEDS DURING THE MONTH OF SEPTEMBER, 1913.

By N. R. TAYLOR, Local Forester.

Sacramento watershed.—The streams in this watershed remained at extreme low stages during the entire month. The Sacramento River from Red Bluff to Walnut Grove was the lowest of which there is an authentic record. At Colusa the river was 1.5 feet below the September normal stage and 0.3 of a foot below the lowest average on record. At Knights Landing it was −1.6 feet, which is 2.2 feet below the normal for the month and 0.7 of a foot below the lowest average stage in the history of the station. The river at Sacramento City averaged only 3.5 feet, which is 3.2 feet below the normal and the lowest since the low-water season of 1856. An extreme low-water stage of 2.6 feet was recorded at Sacramento on September 23, which is the lowest authentic record in the history of the station.

Sacramento was well within the tidal limits during the entire month and occasionally noticeable tides were observed for 10 miles above the city.

Navigation between the Southern Pacific and Northern Electric Bridges was impeded at various times during the month by sand deposits.

A shortage of water in the foothills and mountains has been general and has resulted in the suspension of several mines and power plants. Water for irrigation purposes has become alarmingly scarce.

Lower San Joaquin watershed.—All streams in this watershed remained at low stages, there being little difference between the average stages of the present month and those of the month preceding.

Practically no precipitation occurred in any section of either watershed during the month.

NOTES ON STREAMS AND WEATHER OF THE UPPER SAN JOAQUIN WATERSHED.

By W. E. BONNETT, Local Forester.

Phenomenal rains in the mountains during the last decade of August had raised the streams to unusual stages for that month and the increased flow continued at all points during the first week of September. This resulted in mean stages for September that are quite close to the averages for the last seven years, although the snow cover in the mountains which is the only source of summer supply in ordinary years had promised very low September stages this year. The highest stages at all points were recorded on the 1st or 2d, followed by a gradual fall during the first half of the month after which the stages were low and practically stationary.

No September of recent years has been so favorable for raisin making as the one just closed. Twenty-eight days were clear, there was 95 per cent of the possible sunshine and the per cent of humidity was very low, so that drying has gone on under the most favorable conditions and the bulk of the crop is safe in stack at the close of the month. But one rain warning was issued, that of the 20th, and it was amply justified in the sharp local showers that fell at nearby points. While it is not the highest of record for September, the maximum of 107° on the 18th is noteworthy for the late date in the month on which it occurred.

THE SEPTEMBER HOT WAVE IN LOS ANGELES, CAL.

By FORD A. CARPENTER, Local Forecaster.

The year 1913 will go down in the meteorological history of southern California as a record breaker of extremes in temperature. In many localities the early part of the year witnessed the lowest temperatures ever known, although records extend to 1849, and during the latter half of the year heat records were also broken. On September 17, 80° was the highest minimum temperature ever recorded in Los Angeles, and the highest temperature, 108°, on that day was within 1° of the absolute maximum for the station, 109° on July 25, 1891. That such conditions are uncommon may be gained from the fact that this temperature was 26° higher than the mean daily maximum for the month from 37 years' record at this station. Otherwise September was a typical month, the mean highest temperature being only 2° above the daily normal maximum.

MONTHLY AND ANNUAL DISTRIBUTION OF TEMPERATURES OF 100° AND OVER AT LOS ANGELES, CAL.

Year.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Total.
1877								0
1878						[6] 103		3
1879			[1] 104			[1] 101		4
1880								0
1881					100	102		2
1882						100		1
1883		100	100			[2 6] 104		6
1884					[2] 102			2
1885					[2 5] 106	108	102	5
1886								0
1887			100					1
1888								0
1889						103		1
1890			[3] 105					2
1891				109		100		2
1892								0
1893								0
1894								0
1895			100					1
1896		103						1
1897								0
1898								0
1899							100	1
1900								0
1901								0
1902								0
1903								0
1904								0
1905					101			1
1906						105		1
1907				[1 3] 103	101			4
1908								0
1909					101	[3] 103		3
1910	100							1
1911								0
1912						100		1
1913						108		(1)
Total	1	2	7	6	8	17	2	(44)

References: [1] also 100; [2] also 101; [3] also 102; [4] also 103; [5] also 104; [6] 102 twice.

Month with maximum number, September	17
Year with maximum number, 1883	6
Average number per year (over)	1

Remarks.—The absolute highest temperature, 109°, was registered on July 25, 1891.

The cause of this hot spell, like all instances of temperatures above 90° in this portion of southern California, was a well-defined "norther" condition brought about by pressure distribution typical of such phenomena.

On September 15 the barometric pressure was high over the northwest and low in the southwest. While the low area remained stationary for many days, the high area progressed in a southeasterly direction. The greatest difference in pressure was coincident with the warmest day, when the weather map showed a gradient of a tenth of an inch in barometric pressure to the hundred miles on an east and west line.

The effect of this pressure distribution on the weather in the coast districts of southern California was so give that region the driest and warmest day on record. Previous records were broken at surrounding stations, notably that of San Diego, which has the longest unbroken series of observations in this section. At that station the thermometer rose 9° higher than ever before recorded, and 33° above the mean daily maximum temperature of the month.

The Los Angeles thermogram and hygrogram of the four-day period presents an excellent example of the relationship between temperature and moisture in southern

California during days when the thermometer rises above 90°. The trace sheets of the thermograph and hygrograph show that the day preceding and following the hot day were normal September days with moderately high temperatures, 99° and 90°, and nearly normal humidities, 66 per cent and 65 per cent. At 1.30 p. m. on September 17, the time of the highest temperature of 108°, the relative humidity was 4 per cent as determined by whirled psychrometer observations.

Growers of vegetables and tender plants suffered loss by the extreme dryness, and some of the walnut groves sustained damage. The physical effect of the hot and dry air was not detrimental to the health or business activities of the community. There was an absence of prostration cases from the hospital records and business progressed without interruption. Owing to the extreme dryness of the air animals did not suffer from the heat except rabbits, many of them dying from the unusual conditions. Incidentally there was considerable financial loss occasioned by forest and city fires. On the day of the greatest heat the city fire department responded to 21 fires, which necessitated the use of about 75 million gallons of water, equaling the amount used for domestic purposes by the city on a normal day.

TABLE 1.—*Climatological data for September, 1913. District No. 11, California.*

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Oregon.																			
Chiloquin	Klamath	4,200	....	52.6	.....	87	17	19	22†	55	0.26	.....	0.19	0	5	22	4	4	sw.	H. W. Hincks.
Klamath Falls	....do....	4,100	23	60.0	+ 1.8	87	12†	31	22	42	0.14	— 0.39	0.07	0	3	21	5	4	nw.	Augusta J. Hayden.
Lakeview	Lake	4,825	29	57.5	+ 0.4	88	17	25	22†	43	0.17	— 0.60	0.10	0	2	19	5	6	s.	C. C. Gott.
Merrill	Klamath	4,070	6	56.8	.....	89	17	27	25	50	0.26	.....	0.13	0	2	26	1	3	.....	U. S. Reclamation Service.
Yonna	....do....	4,146	5	55.8	.....	91	18	16	25	59	0.20	.....	0.12	0	2	15	15	0	nw.	Ward Rueck
California.																				
Alturas	Modoc	4,400	9	59.9	.....	95	17	23	24	56	0.22	.....	0.10	0	3	22	8	0	sw.	Prof. C. B. Towle.
Angiola	Tulare	208	13	73.4	+ 1.6	110	17†	42	28	53	0.00	— 0.35	0.00	0	0	30	0	0	.....	Santa Fe Co.
Antioch **	Contra Costa	46	34	84.1	+13.0	105	15	60	2	....	0.00	— 0.28	0.00	0	0	30	0	0	.....	Southern Pacific Co.
Aptos **	Santa Cruz	102	28	64.2	+ 3.3	90	16†	48	11†	....	0.00	— 0.52	0.00	0	0	23	2	5	nw.	Do.
Arrowhead Springs	San Bernardino	2,000	4	78.2	.....	101	11	53	5	33	0.13	.....	0.13	0	1	28	1	1	.....	Dr. E. J. Erekson.
Auburn	Placer	1,360	42	77.8	+ 6.8	106	17	53	14	34	0.00	— 0.53	0.00	0	0	29	0	1	ne.	Southern Pacific Co.
Avalon	Los Angeles	30	3	69.7[e]	.....	100	17	58[j]	3	24[j]	0.00	.....	0.00	0	0	30	0	0	w.	T. S. Manning.
Azusa	....do....	540	11	73.0	+ 2.0	108	17	48	29	52	0.00	— 0.28	0.00	0	0	30	0	0	sw.	A. P. Griffith.
Bagdad	San Bernardino	784	10	85.7	0.0	105	1†	56	24	30	0.00	— 0.14	0.00	0	0	.....	.....	.....	.....	Santa Fe Co.
Bakersfield	Kern	404	24	73.8	— 0.9	108	17	48	23	50	T.	— 0.19	T.	0	0	29	0	1	.....	Do.
Barstow	San Bernardino	2,105	10	79.4	+ 5.1	105	20	55	25	43	0.13	— 0.03	0.13	0	1	26	3	1	w.	E. L. White.
Berkeley	Alameda	317	26	66.8	+ 5.4	106	16	50	29	42	0.00	— 0.58	0.00	0	0	13	13	4	nw.	State University.
Betteravia	Santa Barbara	155	....	63.8	.....	99	17	44	8†	40	0.00	.....	0.00	0	0	17	11	2	w.	Union Sugar Co.
Biggs **	Butte	98	14	80.6	+ 9.0	110	15	56	29	....	0.00	— 0.46	0.00	0	0	25	4	1	.....	Southern Pacific Co.
Bishop	Inyo	4,450	18	62.8	— 1.6	96	12	27	24†	55	0.00	— 0.23	0.00	0	0	.....	.....	.....	.....	Paul E. Lodge.
Bishop Creek	....do....	8,500	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Do.
Blocksburg	Humboldt	1,700	7	67.0	.....	104	16	38	10†	52	0.11	.....	0.11	0	1	22	4	4	nw.	Victor Hope.
Blue Canon	Placer	4,695	14	66.0	+ 6.6	88	17†	42	4	37	0.43	— 0.64	0.43	0	1	28	0	2	n.	Southern Pacific Co.
Blythe	Riverside	268	4	81.4	.....	110	10†	44	25	54	0.00	.....	0.00	0	0	24	5	1	n.	C. L. Suits.
Branscomb	Mendocino	2,000	13	66.0	+ 5.2	98	15†	37	29	43	0.05	— 1.10	0.05	0	1	27	2	1	n.	A. J. Haun.
Brawley	Imperial	—105	4	84.2[b]	.....	110[b]	11	51[b]	26	40[b]	0.00	.....	0.00	0	0	.....	.....	.....	.....	M. D. Witter.
Burney	Shasta	3,300	3	58.5	.....	95	16†	27	24†	58	0.00	.....	0.00	0	0	22	7	1	sw.	Mrs. M. D. Chambers.
Cahuilla	Riverside	3,600	2	66.4	.....	96	12†	35	28†	48	0.83	.....	0.83	0	1	.....	.....	.....	sw.	Dr. W. L. Shawk.
Calexico	Imperial	0	8	83.8	.....	107	11	58	29	37	0.25	.....	0.25	0	1	29	1	0	se.	J. E. Peck.
Caliente **	Kern	1,200	37	76.1	+ 1.0	104	16†	60	30	....	0.00	— 0.09	0.00	0	0	23	6	1	e.	Southern Pacific Co.
Calistoga **	Napa	363	41	70.8	+ 4.1	105	19†	50	1†	....	0.00	— 0.48	0.00	0	0	30	0	0	.....	Do.
Campbell	Santa Clara	217	16	65.0	+ 2.0	103	16	40	29	53	0.00	— 0.43	0.00	0	0	26	2	2	nw.	F. M. Righter.
Camptonville (near)	Yuba	3,500	6	70.6	.....	102	16	44	29	38	0.40	.....	0.35	0	2	24	4	2	s.	Cal. Gas & Electric Co.
Cedarville	Modoc	4,675	19	62.2	+ 3.1	92	17†	32	24	43	0.52	— 0.03	0.44	0	2	20	10	0	sw.	T. H. Johnstone.
Chico	Butte	189	43	74.8	+ 0.2	106	17	45	25	47	0.00	— 0.50	0.00	0	0	25	4	1	s.	G. H. Stephenson.
China Flat	Humboldt	600	4	68.7	.....	103	16	39	23†	51	0.26	.....	0.26	0	1	25	3	2	w.	O. I. Westerburg.
Chino	San Bernardino	714	21	77.0	+ 4.7	108	17	40	29†	....	0.00	— 0.10	0.00	0	0	21	9	0	se.	Southern Pacific Co.
Cisco **	Placer	5,939	42	62.8	+ 7.1	82	21	38	29	....	0.50	— 0.11	0.50	0	1	30	0	0	ne.	Do.
Claremont	Los Angeles	1,200	21	75.4	+ 4.8	109	17	50	3†	43	0.04	— 0.09	0.04	0	1	28	1	1	w.	Prof. F. P. Brackett.
Cloverdale	Sonoma	340	11	72.1	+ 4.5	110	16	42	24	52	T.	— 0.66	T.	0	0	28	0	2	s.	John O. Ogle.
Coalinga	Fresno	663	1	76.3	.....	108	18†	46	30	42	0.08	.....	0.08	0	1	28	0	2	w.	Union Oil Co.
Colfax	Placer	2,421	42	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Southern Pacific Co.
Colusa	Colusa	60	10	75.0[d]	+ 6.0	101[d]	16	49[d]	25	42[d]	0.00	— 0.32	0.00	0	0	.....	.....	.....	.....	C. D. McComish.
Corning **	Tehama	277	27	81.8	+ 7.9	103	17	60	2†	....	0.00	— 0.42	0.00	0	0	27	3	0	n.	Southern Pacific Co.
Cuyamaca	San Diego	4,677	14	65.4	+ 5.3	89	12	36	30	37	0.02	— 0.58	0.02	0	1	25	2	3	s.	Cuyamaca Water Co.
Davisville	Yolo	51	41	71.4	— 0.6	107	16†	40	25†	53	0.00	— 0.26	0.00	0	0	28	2	0	sw.	S. H. Beckett.
Deer Creek	Nevada	3,700	6	60.6	.....	104	17	21	24	69	0.34	.....	0.34	0	1	22	8	0	w.	Cal. Gas & Electric Co.
Del Monte	Monterey	25	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. R. Warner.
Delta	Shasta	1,138	28	74.0	+ 4.3	100	9	40	27	44	0.00	— 1.11	0.00	0	0	30	0	0	n.	Southern Pacific Co.
Denair	Stanislaus	126	13	71.8	+ 0.7	103	17	49	24	40	0.00	— 0.17	0.00	0	0	29	1	0	.....	Santa Fe Co.
De Sabla	Butte	2,500	9	73.1	.....	98	16	40	29	38	0.00	.....	0.00	0	0	19	10	1	s.	Cal. Gas & Electric Co.
Dobbins (near)	Yuba	1,650	9	75.9	.....	106	16	52	25†	40	0.10	.....	0.10	0	1	19	10	1	s.	Do.
Downieville	Sierra	3,150	2	65.0	.....	99	16†	32	25	54	0.12	.....	0.12	0	1	23	6	1	s.	J. T. Mason.
Dudley	Kings	595	1	84.1	.....	116	18	52	24	40	T.	.....	T.	0	0	27	1	2	sw.	Union Oil Co.
Dudleys	Mariposa	3,000	4	63.1	.....	95	17†	31	30	48	0.08	.....	0.08	0	1	28	1	1	nw.	W. H. Dudley.
Dunlap (near)	Fresno	2,800	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	U. S. Forest Service.
Dunnigan **	Yolo	65	36	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Southern Pacific Co.
Dunsmuir **	Siskiyou	2,285	24	67.9	+ 6.3	102	17	39	24	....	0.00	— 1.14	0.00	0	0	28	0	2	n.	Do.
Durham	Butte	160	18	73.8	+ 3.6	106	17	46	25	49	0.00	— 0.75	0.00	0	0	24	5	1	s.	R. W. Durham.
El Cajon	San Diego	482	14	73.8	+ 2.9	108	17	43	29	47	0.00	— 0.12	0.00	0	0	30	0	0	sw.	H. H. Kessler.
Electra	Amador	725	9	72.6	.....	103	17	44	23	42	0.00	.....	0.00	0	0	29	0	1	.....	Cal. Gas & Electric Co.
Emigrant Gap	Placer	5,230	39	59.9	+ 0.9	85	17	32	28	50	T.	— 0.49	T.	0	0	28	0	2	s.	Southern Pacific Co.
Escondido	San Diego	657	19	73.0	+ 4.5	110	17	39	29	51	0.07	— 0.01	0.07	0	1	13	17	0	w.	A. R. Moon.
Eureka	Humboldt	64	27	56.2	+ 1.3	73	4	42	23	30	0.48	— 0.90	0.37	0	2	13	10	7	n.	U. S. Weather Bureau.
Farmington **	San Joaquin	111	34	.....	.....	.....	.....	.....	.....	.....	0.00	— 0.36	0.00	0	0	29	1	0	nw.	Southern Pacific Co.
Folsom	Sacramento	252	41	77.3	+ 5.5	110	16†	48	29	46	T.	— 0.40	T.	0	0	25	0	5	s.	F. O. Hutton.
Fordyce Dam	Nevada	6,500	18	57.6	.....	83	17	34	30	34	0.80	— 0.86	0.80	0	1	21	9	0	sw.	E. E. Roening.
Fort Bidwell	Modoc	4,375	24	60.6	— 1.2	91	17	30	24	44	0.19	— 0.19	0.18	0	2	16	10	4	.....	C. R. Decious.
Fouts Springs	Colusa	1,650	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. J. Burgi.
Fresno	Fresno	293	26	76.6	+ 2.3	107	18	48	30	38	T.	— 0.19	T.	0	0	28	1	1	nw.	U. S. Weather Bureau.
Galt **	Sacramento	49	35	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Southern Pacific Co.
Georgetown	El Dorado	2,650	40	72.5[m]	— 0.5	100[m]	17	47[m]	3	40[m]	0.00	— 0.85	0.00	0	0	.....	.....	.....	.....	G. L. Buchler.
Gilroy **	Santa Clara	193	39	70.2	+ 4.2	106	16	45	29†	....	0.00	— 0.19	0.00	0	0	27	1	2	e.	Southern Pacific Co.
Gilta	Siskiyou	3,300	3	75.4	.....	98	16†	45	28	31	0.58	.....	0.55	0	2	19	5	6	.....	A. Dannenbrink.
Glennville	Kern	3,300	3	69.2	.....	96	17	44	30	33	T.	.....	T.	0	0	27	3	0	w.	C. H. Likely.
Gold Run	Placer	3,222	14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Southern Pacific Co.
Gonzales **	Monterey	127	14	69.1	+ 9.1	104	15	44	5	....	T.	— 0.15	T.	0	0	11	0	19	.....	Do.
Grass Valley	Nevada	2,690	41	70.2	.....	94	16†	45	29	34	T.	— 0.88	T.	0	0	26	2	2	sw.	Mrs. L. M. Wentworth.
Greenland Ranch	Inyo	—178	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. W. Corkhill.
Greenville	Plumas	3,600	19	56.6	— 2.1	102	19	16	24†	71	T.	— 1.23	T.	0	0	22	7	1	sw.	C. H. Higbie.
Groveland	Tuolumne	2,828	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. S. Richardson.
Guinda **	Yolo	350	15	74.3	+ 0.1	99	17	42	27†	....	0.00	— 0.55	0.00	0	0	26	4	0	n.	Southern Pacific Co.
Hanford	Kings	249	13	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Santa Fe Co.
Healdsburg	Sonoma	110	20	70.6	+ 4.9	110	16	39	27	67	0.00	— 0.58	0.00	0	0	24	0	6	s.	Dr. F. J. Kinley.
Hearst (near)	Mendocino	1,800	3	66.2	.....	98	16	35	30	50	0.25	.....	0.25	0	1	29	0	1	w.	H. D. Ellimaker.
Heber	Imperial	—20	3	85.1	.....	113	11	52	29	48	0.00	.....	0.00	0	0	28	2	0	w.	F. E. Hamilton.
Hetch Hetchy	Tuolumne	3,665	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. J. Koppitz.
Hollister	San Benito	284	39	68.1	+ 2.5	106	17	45	9†	51	0.02	— 0.09	0.02	0	1	25	4	1	w.	J. N. Thompson.
Hornbrook	Siskiyou	2,154	25	44.9	—18.8	60	21	30	12	....	0.30	+ 0.06	0.30	0	1	27	2	1	n.	Southern Pacific Co.
Hot Springs	Tulare	3,300	6	68.8	.....	95	18	44	29	34	0.00	.....	0.00	0	0	27	3	0	.....	U. S. Forest Service.
Hullville (near)	Lake	2,250	6	88.1	.....	103	16	33	30	56	0.00	.....	0.00	0	0	12	14	4	nw.	T. H. Betterton.

TABLE 1.—*Climatological data for September, 1913. District No. 11*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Sky				Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.	Prevailing wind direction.	
California—Continued.																			
Independence	Inyo	3,907	17	68.3	− 0.8	94	19	39	27	38	0.00	− 0.07	0.00	0	0	26	4	0	.....	U. S. Weather Bureau.
Indian Wells	Kern	2,500	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I. D. McCoy.
Indio	Riverside	−20	35	87.1	+ 1.6	112	11	55	29	41	0.40	+ 0.26	0.40	0	1	25	4	1	se.	F. N. Johnson.
Inskip	Butte	4,975	6	64.0	.....	86	16	42	29	22	T.	.....	T.	0	0	19	9	2	.....	Cal. Gas & Elect.
Ione **	Amador	287	35	73.0	+ 1.4	103	17	46	23†	....	0.00	− 0.38	0.00	0	0	29	0	1	.....	Southern Pacific Co.
Jamestown	Tuolumne	1,471	10	70.3	+ 2.1	102	17	45	25	53	0.00	− 0.64	0.00	0	0	30	0	0	.....	Sierra Railway Co.
Kennett	Shasta	730	1	72.8	.....	105	17	41	25	50	0.00	.....	0.00	0	0	23	7	0	sw.	C. H. Kremers.
Kentfield	Marin	65	25	68.0	.....	104	16	43	27	54	0.00	− 0.88	0.00	0	0	.....	.....	.....	.....	Miss M. E. Parsons.
King City	Monterey	333	26	75.8	+ 9.0	112	16	45	10†	60	0.00	− 0.23	0.00	0	0	30	0	0	n.	Southern Pacific Co.
Lake Eleanor	Tuolumne	4,700	3	63.2	.....	93	16†	33	30	44	0.01	.....	0.01	0	1	26	4	0	se.	O. J. Todd.
La Porte	Plumas	5,000	19	60.0	+ 4.8	88[a]	17	31	25	42[a]	0.71	− 1.18	0.71	0	1	26	2	2	n.	C. W. Hendel.
Le Grand	Merced	255	13	74.5	+ 1.9	110	18	45	30	45	0.00	− 0.23	0.00	0	0	30	0	0	w.	Santa Fe Co.
Lemon Cove	Tulare	600	18	78.4	+ 3.5	111	18	51	22†	46	0.00	− 0.45	0.00	0	0	24	6	0	n.	W. R. Park.
Lick Observatory	Santa Clara	4,209	24	65.7[d]	+ 3.1	91[d]	18	41[d]	29	20[d]	0.00	− 0.36	0.00	0	0	28	2	0	n.	The Director.
Livermore	Alameda	485	42	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. G. Still.
Lone Pine	Inyo	2,728	8	67.9	.....	96	21	35	24	44	0.00	.....	0.00	0	0	26	4	0	s.	G. F. Marsh.
Long Valley	Lassen	4,400	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. Evans.
Los Angeles	Los Angeles	293	36	73.6	+ 7.1	108	17	58	29	35	0.03	− 0.05	0.02	0	2	24	4	2	sw.	U. S. Weather Bureau.
Los Banos **	Merced	121	26	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Southern Pacific Co.
Los Gatos	Santa Clara	600	26	69.8	+ 4.2	106	17	46	29	41	0.00	− 0.57	0.00	0	0	27	3	0	n.	F. H. McCullagh.
McCloud	Siskiyou	3,410	3	60.1	.....	94	17	30	27	49	0.07	.....	0.07	0	1	24	3	3	s.	F. F. Spencer.
Macdoel	....do	4,528	8	55.3	.....	88	20	26	24†	46	0.18	.....	0.07	0	3	21	7	2	s.	Butte Valley Land Co.
Madeline	Lassen	5,270	4	57.0	.....	90	16	21	24†	63	T.	.....	T.	0	0	27	2	1	sw.	J. H. Williams.
Magalia	Butte	2,321	9	71.2	.....	103	17	42	28	61	T.	.....	T.	0	0	26	3	1	se.	Butte Co. R. R. Co.
Mammoth Tank	Imperial	257	35	92.1	+ 2.1	112	11†	75	2	37	0.00	− 0.04	0.00	0	0	28	1	1	nw.	Southern Pacific Co.
Maricopa	Kern	640	2	76.4	.....	109	17†	53	29	37	T.	.....	T.	0	0	27	2	1	n.	Union Oil Co.
Marysville	Yuba	67	42	73.0	− 1.0	107	16	44	27†	49	0.00	− 0.34	0.00	0	0	28	0	2	s.	Southern Pacific Co.
Mecca	Riverside	−185	7	86.6	.....	112	11	52	24†	38	T.	.....	T.	0	0	25	5	0	se.	E. A. Palmer.
Menlo Park **	San Mateo	64	35	.....	.....	.....	.....	.....	.....	.....	0.00	− 0.32	0.00	0	0	30	0	0	nw.	Southern Pacific Co.
Merced	Merced	173	39	74.8	+ 1.1	110	19	49	24	42	T.	− 0.22	T.	0	0	29	1	0	nw.	Santa Fe Co.
Middlewater	Kern	803	2	77.3	.....	105	18	51	30	36	0.00	.....	0.00	0	0	29	1	0	w.	Union Oil Co.
Mill Creek—1	Amador	2,500	6	68.2	.....	100	16†	44	25†	45	0.00	.....	0.00	0	0	28	1	1	n.	Cal. Gas & Elect.
Milton (near)	Calaveras	660	22	75.7	+ 4.1	107	17	49	29	35	T.	− 0.40	T.	0	0	26	4	0	nw.	J. H. Southwick.
Modesto **	Stanislaus	90	41	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Southern Pacific Co.
Mojave	Kern	2,751	36	76.8	+ 2.9	108	18†	50	25	....	0.00	− 0.08	0.00	0	0	28	2	0	w.	Do.
Mokelumne Hill	Calaveras	1,550	20	74.8	+ 7.0	103	17	48	29	30	T.	− 0.59	T.	0	0	30	0	0	.....	C. E. Prindle.
Mono Ranch	Ventura	3,210	7	64.9	.....	94	17	36	25	42	0.00	− 1.33	0.00	0	0	26	4	0	w.	Herbert Lathrop.
Montague	Siskiyou	2,450	25	63.9	− 2.4	97	17	34	25†	50	0.30	− 0.02	0.25	0	2	19	7	4	n.	I. E. DeBoy.
Monterey **	Monterey	15	48	66.7	+ 5.2	94	17	44	30	....	0.00	− 0.27	0.00	0	0	27	2	1	se.	Southern Pacific Co.
Monterio	Kern	4,500	14	72.0	+ 1.6	96	3†	48	25	44	0.06	− 0.21	0.04	0	3	25	2	3	nw.	John C. Knecht.
Mount Tamalpais	Marin	2,375	14	67.6	+ 1.5	95	16	45	2	24	0.01	− 0.51	0.01	0	1	24	5	1	nw.	U. S. Weather Bureau.
Napa City	Napa	20	36	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Alex. Hull.
Napa (S. H.)	....do	60	35	71.0	+ 5.0	104	16	49	25	44	0.00	− 0.51	0.00	0	0	18	12	0	sw.	A. R. Edgar.
Needles	San Bernardino	477	21	84.7	+ 1.0	104	6	61	30	31	0.18	− 0.06	0.18	0	1	25	5	0	nw.	Santa Fe Co.
Nellie	San Diego	5,350	4	64.9	.....	90	11†	38	30	45	0.15	.....	0.15	0	1	.....	.....	.....	.....	T. O. Bailey.
Nevada City	Nevada	2,850	21	66.8	+ 4.6	101	17	36	30	50	0.07	− 0.70	0.07	0	1	25	5	0	sw.	S. W. Marsh.
Newhall **	Los Angeles	1,200	36	81.4	+ 9.9	108	17	60	22	....	0.00	− 0.40	0.00	0	0	23	0	7	s.	Southern Pacific Co.
Newman	Stanislaus	91	24	75.9	+ 2.3	110	17	50	25	45	0.00	− 0.20	0.00	0	0	.....	.....	.....	.....	E. S. Wangenheim.
North Bloomfield	Nevada	3,214	16	69.5	+ 5.7	98	16†	39	29	40	0.00	− 1.12	0.00	0	0	19	9	2	s.	J. R. McIntosh.
North Fork	Madera	3,000	9	69.4	.....	102	19	39	25	48	T.	.....	T.	0	0	26	4	0	sw.	U. S. Forest Service.
Oakdale **	Stanislaus	156	19	74.4	+ 4.0	109	17	50	27	....	T.	− 0.21	T.	0	0	28	1	1	nw.	Southern Pacific Co.
Oak Grove	San Diego	2,751	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	B. L. Johnson.
Oakland	Alameda	36	37	65.4	+ 4.2	97	16	53	9†	38	0.00	− 0.46	0.00	0	0	20	9	1	w.	Chabot Observatory.
Oceanside	San Diego	60	3	71.8	.....	106	17	56	25	36	T.	.....	T.	0	0	24	5	1	w.	H. D. Brodie.
Ojai Valley	Ventura	900	7	73.0	.....	113	16	45	25†	53	0.02	.....	0.02	0	1	25	2	3	sw.	W. H. Duncan.
Orland	Glenn	254	31	78.5	+ 1.8	109	17	50	24	48	T.	− 0.40	T.	0	0	26	2	2	n.	U. S. Rec. Service.
Orleans	Humboldt	520	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. T. Hale.
Oroville (near)	Butte	250	29	74.8	+ 1.8	105	17	47	29	43	0.00	− 0.71	0.00	0	0	23	3	4	s.	E. D. Fairchild.
Palermo	....do	213	22	61.2	− 9.1	85	10†	37	5†	42	T.	− 0.70	T.	0	0	15	15	0	n.	Western Pacific Co.
Palm Springs **	Riverside	584	24	87.9	+ 3.3	107	11†	63	26	....	0.10	+ 0.01	0.10	0	1	30	0	0	.....	Southern Pacific Co.
Pasadena	Los Angeles	827	23	70.9	+ 1.3	109	17	45	25†	45	0.14	− 0.01	0.09	0	2	25	3	2	sw.	E. D. Sorver.
Paso Robles	San Luis Obispo	800	26	69.1[a]	+ 3.0	112[a]	18	36[a]	28†	62[a]	0.70	+ 0.41	0.70	0	1	25	1	4	sw.	Dr. F. W. Sawyer.
Peachland	Sonoma	190	17	66.6	+ 2.9	107	16	38	27	56	0.01	− 0.69	0.01	0	1	24	6	0	sw.	E. H. Parnell.
Petaluma	....do	.....	.....	67.0	.....	109	16	39	27	57	T.	.....	T.	0	0	19	11	0	nw.	John Landis.
Placerville	Eldorado	1,875	24	66.2	+ 2.7	94	17	42	29	40	0.00	− 0.72	0.00	0	0	.....	.....	.....	.....	A. E. May.
Point Lobos	San Francisco	250	20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	John Hyslop.
Point Reyes	Marin	490	21	58.8	− 0.2	91	16	50	8	33	0.09	− 0.75	0.07	0	3	14	7	9	nw.	U. S. Weather Bureau.
Pomona	Los Angeles	.....	.....	72.9	.....	109	17	42	27†	52	0.00	.....	0.00	0	0	19	3	8	e.	J. E. Adamson.
Porterville	Tulare	464	24	79.0	+ 3.9	112	18	52	25†	43	0.00	− 0.29	0.00	0	0	29	0	1	.....	Leslie McAuliff.
Quincy	Plumas	3,400	18	58.2	+ 1.0	91	17	26	25	55	0.00	− 1.33	0.00	0	0	27	2	1	s.	U. S. Forest Service.
Red Bluff	Tehama	307	36	76.7	+ 2.8	105	16	53	28	37	0.00	− 0.67	0.00	0	0	24	3	3	n.	U. S. Weather Bureau.
Redding	Shasta	552	38	76.4	+ 2.4	106	17	48	29	39	0.00	− 0.78	0.00	0	0	28	2	0	nw.	W. W. Jones.
Redlands	San Bernardino	1,352	20	74.6	+ 2.4	105	16†	50	24†	47	0.00	− 0.34	0.00	0	0	24	6	0	w.	W. S. Devol.
Reedley	Fresno	347	13	74.0	+ 1.8	105	18	48	22	47	0.00	− 0.65	0.00	0	0	28	0	2	n.	Santa Fe Co.
Rialto (near)	San Bernardino	2,250	7	76.9	.....	101	12†	47	24	32	T.	.....	T.	0	0	26	4	0	n.	So. Cal. Edison Co.
Riverside	Riverside	851	31	75.4	+ 3.3	111	17	42	27	55	0.00	− 0.14	0.00	0	0	26	4	0	w.	J. H. D. Cox.
Rocklin	Placer	249	42	72.6	− 0.1	107	17	37	15	60	0.00	− 0.27	0.00	0	0	28	0	2	.....	Southern Pacific Co.
Rohnerville	Humboldt	75	10	59.6	.....	88	16	38	23	42	0.25	− 0.65	0.25	0	1	18	6	6	nw.	Dr. R. Callahan.
Sacramento	Sacramento	71	36	73.0	+ 3.9	104	17	52	28	40	0.00	− 0.36	0.00	0	0	29	1	0	s.	U. S. Weather Bureau.
St. Helena	Napa	255	5	71.0	.....	109	16	39	28†	56	0.00	.....	0.00	0	0	26	4	0	.....	E. E. Hooper.
Salinas	Monterey	40	39	67.7	+ 6.6	102	17	44	27†	42	0.00	− 0.20	0.00	0	0	30	0	0	w.	Miss E. Ruth Abbott.
San Bernardino	San Bernardino	1,054	21	75.2	+ 4.1	108	17	42	27	52	0.02	− 0.12	0.02	0	1	22	8	0	sw.	Dr. A. K. Johnson.
San Diego	San Diego	93	42	70.3	+ 3.4	110	17	57	25	39	0.02	− 0.04	0.02	0	1	24	6	0	nw.	U. S. Weather Bureau.
San Francisco	San Francisco	207	42	64.6	+ 5.3	101	16	52	13	35	0.00	− 0.27	0.00	0	0	24	5	1	w.	Do.
San Jacinto	Riverside	1,550	20	76.1	+ 5.1	106	12†	44	27	50	0.00	− 0.18	0.00	0	0	26	3	1	w.	E. T. Tanner.
San Jose	Santa Clara	95	38	67.8	+ 3.1	103	16	45	29	47	T.	− 0.20	T.	0	0	27	3	0	nw.	U. S. Weather Bureau.
San Luis Obispo	San Luis Obispo	201	18	67.0	+ 5.5	109	17	45	10	50	0.07	− 0.05	0.05	0	2	21	5	4	n.	Do.
San Mateo **	San Mateo	22	39	71.1	+ 7.4	100	16	58	26†	....	T.	− 0.35	T.	0	0	25	0	5	w.	Southern Pacific Co.
San Miguel **	San Luis Obispo	616	26	72.3	+ 3.0	104	17	50	6†	....	0.05	− 0.16	0.05	0	1	22	5	3	.....	Do.
San Miguel Island	Santa Barbara	500	19	63.2	.....	102	17	51	12	28	0.00	− 0.60	0.00	0	0	16	6	8	w.	Capt. W. G. Waters.
Sanger **	Fresno	371	24	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Southern Pacific Co.
Santa Barbara	Santa Barbara	130	29	67.0	+ 1.2	108	17	48	10	46	0.17	− 0.20	0.15	0	2	24	3	3	w.	G. W. Russell.
Santa Clara	Santa Clara	90	24	68.1	+ 4.9	108	16	41	29	56	T.	− 0.34	T.	0	0	28	0	2	nw.	Santa Clara University.
Santa Cruz	Santa Cruz	20	40	64.8	+ 1.7	106	17	42	23†	55	0.00	− 0.59	0.00	0	0	24	5	1	w.	W. R. Springer.
Santa Margarita **	San Luis Obispo	996	24	72.2	+ 5.4	102	23	38	1	....	0.10	− 0.31	0.10	0	1	27	0	3	s.	Southern Pacific Co.
Santa Monica	Los Angeles	110	28	65.5	− 1.1	104	17	52	2†	24	0.00	− 0.14	0.00	0	0	24	5	1	w.	F. E. Hill.

TABLE 1.—*Climatological data for September, 1913. District No. 11*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Sky.				Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.	Prevailing wind direction.	
California—Continued.																				
Santa Rosa	Sonoma	181	24																	Southern Pacific Co.
Selma **	Fresno	311	27	83.6	+ 8.5	103	18†	65	2	....	0.00	− 0.28	0.00	0	0	30	0	0	.....	Do.
Seven Oaks	San Bernardino	5,000	3	62.4	.....	89	17	33	24	43	0.40	.....	0.40	0	1	22	5	3	w.	M. Lewis.
Sierra Madre	Los Angeles	1,400	16	75.0	+ 4.5	105	17	54	3†	35	0.20	− 0.21	0.20	0	1	26	2	2	s.	Mrs. A. E. Gregory.
Sierraville	Sierra	5,000	3	58.5	.....	93	17	23	24	54	0.00	.....	0.00	0	0	24	5	1	sw.	C. D. Johnson.
Sisson	Siskiyou	3,555	24	58.4	0.0	92	16	31	22	42	0.17	− 0.73	0.17	0	1	26	1	3	n.	Southern Pacific Co.
Soledad **	Monterey	188	39	76.2	+11.3	103	17	55	25	....	0.00	− 0.12	0.00	0	0	30	0	0	n.	Do.
Sonora	Tuolumne	1,825	2	70.1	.....	97	17	46	30	39	T.	− 0.65	T.	0	0	28	1	1	w.	Chas. P. Jones.
Southeast Farallon	San Francisco	30	10																	U. S. Weather Bureau.
Springville	Tulare	4,000	6	67.9[a]	.....	95[a]	18	40[a]	29†	36[a]	0.00	.....	0.00	0	0	29	0	1	.....	D. L. Wishon.
Squirrel Inn	San Bernardino	5,280	3	63.7	.....	85	12	41	24	26	T.	.....	T.	0	0	28	2	0	s.	A. D. Frantz.
Stanwood	Butte	2,140	9	67.2	.....	97	18	46	26†	39	0.02	.....	0.01	0	2	24	3	3	n.	Cal. Gas & Electric Co.
Stirling City	....do	3,525	9																	Butte Co. R. R. Co.
Stockton (S. H.)	San Joaquin	23	42	72.3	+ 3.3	101	17	51	29	35	T.	− 0.21	T.	0	0	29	1	0	nw.	State Hospital.
Storey	Madera	296	13																	Santa Fe Co.
Suisun **	Solano	20	33																	Southern Pacific Co.
Sulphur Banks	Lake	1,350	1	70.1	.....	101	16	37	29	51	0.00	.....	0.00	0	0	28	0	2	w.	L. S. Lorenzen.
Summit	Placer	7,017	40	59.4	+ 5.7	79	17	33	24†	31	0.40	+ 0.01	0.40	0	1	22	6	2	w.	Southern Pacific Co.
Susanville	Lassen	4,175	24	62.6[e]	+ 2.6	95[d]	18	28[e]	24	48[i]	0.03	− 0.60	0.02	0	2	23	6	1	.....	C. M. Penry.
Tamarack	Alpine	8,000	7	51.1	.....	80	8†	22	30	50	0.00	− 0.97	0.00	0	0	20	10	0	sw.	Cal. Gas & Electric Co.
Tehachapi **	Kern	3,964	26	70.7	+ 4.6	91	19	42	28	....	0.00	− 0.15	0.00	0	0	30	0	0	.....	Southern Pacific Co.
Tehama	Tehama	220	42	77.2	+ 2.9	102	18	58	28	....	0.00	− 0.36	0.00	0	0	29	0	1	n.	Do.
Tejon Rancho	Kern	1,500	10																	S. E. Bailey.
Three Rivers	Tulare	870	3	74.2	.....	105	18	45	29†	44	T.	.....	T.	0	0	28	2	0	sw.	J. H. Pierce.
Towle	Placer	3,704	27	67.2	+ 3.9	90	1	38	29	25	0.15	− 1.38	0.15	0	1	27	3	0	ne.	Southern Pacific Co.
Tracy **	San Joaquin	64	33	78.0	+ 6.0	102	16†	58	13	....	0.00	− 0.21	0.00	0	0	....	....	....	.....	Do.
Ukiah	Mendocino	620	20	69.0	+ 3.4	106	16	37	23†	53	T.	− 0.57	T.	0	0	21	7	2	nw.	Dr. George McCowen.
Upper Lake	Lake	1,350	28	69.4	+ 2.5	105	18	36	29	52	0.00	− 0.46	0.00	0	0	25	2	3	se.	C. M. Hammond.
Vacaville	Solano	175	25																	G. O. Coburn.
Valley Springs **	Calaveras	673	24	75.9	+ 3.8	106	17	60	28†	....	0.00	− 0.48	0.00	0	0	28	2	0	nw.	Southern Pacific Co.
Visalia	Tulare	334	25	69.2	− 2.5	109	18	35	23	59	0.00	− 0.42	0.00	0	0	29	0	1	nw.	Santa Fe Co.
Warner Springs	San Diego	3,165	5	71.3	.....	98	18	42	24	42	0.05	.....	0.03	0	2	27	2	1	.....	Mrs. F. S. Sandford.
Wasco	Kern	336	13	80.0	+ 7.4	113	18	50	30	60	0.00	− 0.33	0.00	0	0	30	0	0	se.	Santa Fe Co.
Watsonville	Santa Cruz	23	17	63.6	+ 3.1	105	16	36	29	62	0.05	− 0.32	0.05	0	1	16	11	3	w.	Spreckels Sugar Co.
Weaverville	Trinity	2,162	1	63.4	.....	99	16	30	29†	55	0.14	− 0.36	0.14	0	1	23	3	4	.....	U. S. Forest Service.
Weitchpec	Humboldt	1,700	3	64.7	.....	94	15†	37	29	38	1.37	.....	0.80	0	6	24	2	4	sw.	M. E. Lathrop.
Westley **	Stanislaus	90	24	80.7	+ 6.7	106	17	59	4	....	0.00	− 0.22	0.00	0	0	30	0	0	n.	Southern Pacific Co.
Wheatland	Yuba	84	26	73.4	+ 3.5	103	16	49	25†	41	T.	− 0.51	T.	0	0	23	6	1	s.	Wm. Lumbard.
Willows	Glenn	136	34	76.7	+ 1.1	108	16†	47	28	45	0.00	− 0.31	0.00	0	0	28	2	0	se.	E. C. Mills.
Yorba Linda	Orange																			S. J. Walker.
Yosemite	Mariposa	3,945	9	66.1	.....	103	18	31	25†	60	0.09	.....	0.08	0	2	28	2	0	s.	J. P. Kelly.

[a], [b], [c], etc., indicate respectively 1, 2, 3, etc., days missing from the record.
** Temperature extremes are from observed readings of the dry bulb; means are computed from observed readings.
† Also on other dates.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 2.—*Daily precipitation for September, 1913. District No. 11, California.*

Stations.	Watershed.	Day of month.																												Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Oregon.																																
Chiloquin	Klamath			.03	.01	T.																.01							.19	.02		0.26
Klamath Falls	do																					.02							.07	.05		0.14
Lakeview	Pitt							T.														.10								.07		0.17
Merrill	Interior drainage.																				.13								.13			0.26
Vistillas	Pitt																															
Yonna	Interior drainage.																					.04								.16		0.20
California.																						.12							.08			0.20
Aguanga	Coast														.82																	0.82
Alturas	Sacramento							.06														.10								.06		0.22
Angels Camp	San Joaquin																															0.00
Angiola	do																															0.00
Antelope Valley	do																				T.											T.
Antioch	do																															0.00
Aptos	Coast																						.13									0.00
Arrowhead Springs	do																															0.13
Auburn	Sacramento																															0.00
Avalon	Ocean																															0.00
Azusa	Coast																															0.00
Bagdad	Desert																															0.00
Bakersfield	San Joaquin																				T.											T.
Barstow	Desert													.13								T.										0.13
Bear River	San Joaquin																															
Bear Valley	do																															0.00
Bear Valley Dam	do																															0.00
Beaumont	do																															0.00
Beaumont (near)	do																				.22											0.22
Belotta	do																															0.00
Ben Lomund	Coast																															0.00
Berkeley	do																															0.00
Betteravia	do																															0.00
Biggs	Sacramento																															0.00
Bishop	Owens																															0.00
Bishop Creek	do																															0.00
Blocksburg	Coast		T.	T.																	T.											
Blue Canon	Sacramento																												.11			0.11
Blythe	Desert																													.43		0.43
Boulder Creek	Coast																															0.00
Bowmans Dam	Sacramento																															0.00
Branscomb	Coast																												.06			0.06
Brawley	Desert																												.05			0.05
Burney	Sacramento																															0.00
Butte Valley	do																															0.00
Cahuilla	Coast													.83																		
Calexico	Desert														.25																	0.83
Caliente	San Joaquin																															0.25
Calistoga	Coast																															0.00
Campbell	do																															0.00
Campo	do																															0.00
Camptonville (near)	Sacramento																															0.00
Cedarville	Mountain Lakes.																					.05								.35		0.40
																						.44								.08		0.52
Chester	Sacramento																				.06								.03			0.09
Chico	do																															0.00
Chico (near)	do		.26	T.																									T.			0.26
China Flat	Coast																															0.00
Chino	do																															0.00
Cisco	Sacramento																													.50		0.50
Claremont	Coast	.04																														0.04
Cloverdale	do	T.	T.																													T.
Coalinga	San Joaquin																					.08										0.08
Colfax	Sacramento																															
Colgate	do																				.10											0.10
Colusa	do																															0.00
Corning	do																															0.00
Corona	Coast																															
Cuyamaca	do														.02																	0.02
Davisville	Sacramento																															0.00
Deer Creek	do																												.34			0.34
Del Monte	Coast																															
Delta	Sacramento																															0.00
Denair	San Joaquin																															0.00
De Sabla	Sacramento																															0.00
Descanso	Coast												1.17	.10																	T.	1.27
Devils Canon	do																															
Dinuba	San Joaquin																															0.00
Dobbins (near)	Sacramento																					.10										0.10
Downieville	do																				T.								.12			0.12
Dudley	San Joaquin																				T.											T.
Dudleys	do																				.08											0.08
Dunlap (near)	do																															
Dunnigan	Sacramento																															
Dunsmuir	do																															0.00
Durham	do																															0.00
East Park	do																															0.00
Edgewood	Sacramento																													.34		0.34
Edison	San Joaquin																															0.00
El Cajon	Coast																															0.00
Electra	San Joaquin																															0.00
Emigrant Gap	Sacramento																											T.	T.			T.
Escondido	Coast																					.07										0.07
Eureka	do		11																										.37			0.48
Fairmont	do																															
Farmington	San Joaquin																															0.00
Felton	Coast																															0.00
Firebaugh	San Joaquin																															‡T.
Folsom	Sacramento																				T.											T.
Fordyce Dam	do																					T.							.80			0.80
Fort Bidwell	Mount'n Lakes.							T.														.18								.01		0.19

TABLE 2.—*Daily precipitation for September, 1913. District No. 11*—Continued.

Stations.	Watershed.	Day of month.																												Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
California—Contd.																																
Fort Bragg	Coast																												.23			0.23
Fort Ross	do																															
Fouts Springs	Sacramento																															
Fresno	San Joaquin												T.	T.							T.											T.
Friant	do																															0.00
Galt	do																															
Georgetown	do																															0.00
Gilroy	Coast																															0.00
Gilta	do			T.	.55																								.03			0.58
Glenn Ranch	do																															0.00
Glennville	San Joaquin																				T.											T.
Glenwood	Coast																															0.00
Gold Run	Sacramento																															
Gonzales	Coast																				T.											T.
Grass Valley	Sacramento																					T.							T.			T.
Greenland Ranch	Desert																															
Greenville	Sacramento																					T.							T.			T.
Gridley	do																				T.											T.
Groveland	San Joaquin																															
Guinda	Sacramento																															0.00
Hanford	San Joaquin																															
Head Dam	Sacramento																					.01										0.01
Healdsburg	Coast																															0.00
Hearst (near)	do																												.25			0.25
Heber	Desert																															0.00
Helen Mine	Coast																															
Hetch Hetchy	San Joaquin																															
Holcomb	Coast	T.											T.	T.																		T.
Hollister	do																					.02										0.02
Hornbrook	Klamath																												.30			0.30
Hot Springs	San Joaquin																															0.00
Hullville	Coast																															0.00
Hyampon	do																															0.00
Independence	Owens																															0.00
Indian Wells	Desert																															
Indio	do							T.						.40																		0.40
Inskip	Sacramento																					T.							T.			T.
Ione	San Joaquin																															0.00
Jacksonville	do																															0.00
Jamestown	do																															0.00
Jenny Lind	do																															0.00
Jolon	Coast																				.02											0.02
Julian	do																															0.00
Kennedy Mine	San Joaquin																															0.00
Kennett	Sacramento																															0.00
Kentfield	Coast																															0.00
Kernville	San Joaquin																															0.00
King City	Coast																															0.00
Knights Landing	Sacramento																															0.00
La Grange	do																															0.00
La Jolla	Coast													.14																		0.14
Lake Eleanor	San Joaquin													.01							T.											0.01
Lakeside	Coast																															
Lake Spaulding	Sacramento																												.25			0.25
La Porte	do																					T.							.71			0.71
Lathrop	San Joaquin																															0.00
Laurel	Coast																															0.00
Le Grand	San Joaquin																															0.00
Lemon Cove	do																															0.00
Lick Observatory	Coast																															0.00
Livermore	Coast																															
Lone Pine	Owens																															0.00
Long Valley	Mount'n Lakes																															
Lordsburg	Coast																															0.00
Los Alamos	do																															
Los Angeles	do		.02																		.01											0.03
Los Banos	San Joaquin																															
Los Gatos	Coast																															0.00
Los Molinos	Sacramento																															
Lowe Observatory	Coast	T.	.05																													0.05
McCloud	Sacramento			T.																		T.							.07			0.07
Macdoel	Klamath																					.07						.06	.05			0.18
Madeline	Mount'n Lakes								T.																							T.
Magalia	Sacramento																												T.			T.
Mammoth Tank	Desert																															0.00
Maricopa	San Joaquin																				T.											T.
Mariposa	do																															
Marysville	Sacramento																															0.00
Mecca	Desert													T.																		T.
Melones	San Joaquin																															0.00
Menlo Park	Coast																															0.00
Merced	San Joaquin																				T.											T.
Merced Falls	do																															‡0.01
Mesa Grande	Coast												.48																			0.48
Middlewater	San Joaquin																															0.00
Mill Creek—1	do																															0.00
Mill Creek—2	Coast																							.11								0.11
Mills College	do																															0.00
Milo	San Joaquin																															0.00
Milton (near)	do																				T.											T.
Modesto	do																															
Mojave	Desert																															0.00
Mokelumne Hill	San Joaquin																				T.											T.
Mono Ranch	Coast																															0.00
Montague	Klamath			T.																									.25	.05		0.30
Monterey	Coast																															0.00
Monterio	San Joaquin												.01								.01	.04										0.06
Montgomery Creek	Sacramento																															0.00
Mount Tamalpais	Coast	.01																														0.01
Mount St. Helena	do																															
Napa City	do																															

TABLE 2.—*Daily precipitation for September, 1913. District No. 11*—Continued.

Stations.	Watershed.	Day of month.																												Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
California—Contd.																																
Napa (S. H.)	Coast																															0.00
Needles	Desert													.18																		0.18
Nellie	Coast												.15																			0.15
Nevada City	Sacramento																					T.								.07		0.07
Nevis	do																					.01							.03			0.04
Newhall	Coast																															0.00
Newman	San Joaquin																															0.00
North Bloomfield	Sacramento																															0.00
North Fork	San Joaquin													T.																		T.
North Lakeport	Coast																															0.00
Oakdale	San Joaquin																				T.											T.
Oak Grove	Coast																															
Oakland	do																															0.00
Oakville	do																															0.00
Oceanside	do													T.										T.								T.
Ojai Valley	do	T.						T.													.02											0.02
Orland	Sacramento																				T.											T.
Orleans	Klamath																															
Oroville (near)	Sacramento																															0.00
Ozena	Coast																															
Palermo	Sacramento																											T.				T.
Palm Springs	Desert													.10																		0.10
Parkfield	Coast																				.12											0.12
Pasadena	do	.09	.05																													0.14
Paso Robles	do																					.70										0.70
Peachland	do		.01																													0.01
Petaluma	do			T.																												T.
Phoenix Dam	San Joaquin																															0.00
Pilot Creek	Sacramento																				T.								T.			T.
Pinchot	Coast																															
Pine Crest	do	.10	.13																													0.23
Placerville	Sacramento																															0.00
Point Lobos	Coast																															
Point Loma	Coast				T.	T.					T.					T.	.01				T.								.01	.01		0.03
Point Reyes	do	.01		.07																									.01			0.09
Pomona	do																															0.00
Porterville	San Joaquin																															0.00
Priest Valley	Coast																															
Quincy	Sacramento																															0.00
Red Bluff	do																															0.00
Redding	do																															0.00
Redlands	Coast																															0.00
Reedley	San Joaquin																															0.00
Represa	Sacramento																															0.00
Rialto (near)	Coast																							T.								T.
Rio Vista	Sacramento																					T.										T.
Riverside	Coast																															0.00
Rocklin	Sacramento																															0.00
Rohnerville	Coast		T.	T.	T.																								.25			0.25
Ruth	do			.02																									.03			0.05
Sacramento	Sacramento																															0.00
Saint Helena	Coast																															0.00
Salinas	do																															0.00
San Bernardino	do		.02																													0.02
San Diego	do																							.02								0.02
San Francisco	do																															0.00
San Jacinto	do																															0.00
San Jose	do																				T.											T.
San Luis Obispo	do	.02																			.05											0.07
San Mateo	do																												T.			T.
San Miguel	do																				.05											0.05
San Miguel Island	Ocean																															0.00
Sanger	San Joaquin																															
Santa Ana River	Coast																															0.00
Santa Barbara	do	.15												.02							T.											0.17
Santa Clara	do																				T.											T.
Santa Cruz	do																															0.00
Santa Margarita	do																				.10											0.10
Santa Monica	do																															0.00
Santa Rosa	do																															
Sausalito	do																															0.00
Selma	San Joaquin																															0.00
Seven Oaks	Coast												T.	.40																		0.40
Shively	do																													.09		0.09
Sierra Madre	do	.20																														0.20
Sierraville	Mountain Lakes.																															0.00
Sisquoc Ranch	Coast																															
Sisson	Sacramento																											.17				0.17
Soledad	Coast																															0.00
Sonora	San Joaquin																				T.											T.
Southeast Farallon	Ocean																															
Spreckels	Coast																				.13											0.13
Springville	San Joaquin																															0.00
Squirrel Inn	Coast													T.																		T.
Stanwood	Sacramento																					.01							.01			0.02
Stirling City	do																															
Stockton (S. H.)	San Joaquin																				T.											T.
Storey	do																															
Suisun	Sacramento																															
Sulphur Banks	do																															0.00
Summit	do																					T.								.40		0.40
Susanville	Mountain Lakes.																					.01								.02		0.03
Tamarack	Sacramento																															0.00
Tehachapi	San Joaquin																															0.00
Tehama	Sacramento																															0.00
Tejon Rancho	San Joaquin																															
Three Rivers	do																				T.	T.										T.
Towle	Sacramento																													.15		0.15

TABLE 2.—*Daily precipitation for September, 1913. District No. 11*—Continued.

Stations.	Watershed.	Day of month.																												Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
California—Contd.																																
Tracy	San Joaquin																															0.00
Tulare	....do																															
Tustin (near)	Coast																				T.											0.00
Ukiah	....do																															T.
Upper Lake	Sacramento																															0.00
Upper Mattole	Coast			.21	.21																								.10			0.52
Vacaville	Sacramento																															
Valley Springs	San Joaquin																															0.00
Visalia	....do																															0.00
Warner Springs	Coast												.02	.03																		0.05
Wasco	San Joaquin																															0.00
Watsonville	Coast																				.05											0.05
Weaverville	....do			.14																		T.							T.			0.14
Weitchpec	Klamath		.32	.80	.07	.03																.02							.13			1.37
West Branch	Sacramento																												T.			T.
Westley	San Joaquin																															0.00
West Point	....do			T.		T.																										T.
West Saticoy	Coast																															
Wheatland	Sacramento																				T.								T.			T.
Willows	....do																															0.00
Yorba Linda	Coast																															
Yosemite	San Joaquin												.01	.08							T.											0.09

* Precipitation included in that of the next measurement.
‡ Separate dates of falls not recorded.
‖ Precipitation for the 24 hours ending on the morning when it is measured.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 3.—*Maximum and minimum temperatures at selected stations for September, 1913. District No. 11, California.*

Date.	Lakeview, Oreg.		California.																							
			Alturas		Barstow.		Bransomb.		Brawley.		Colusa.		Eureka.		Fresno.		Independence.		Los Angeles.		Mount Tamalpais.		Nevada City.		Porterville.		Red Bluff.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1....	76	46	80	57	90	70	64	44	97	72	91	55	58	48	90	65	82	58	74	63	49	46	79	59	94	64	84	60
2....	72	42	76	44	95	66	60	44	98	62	90	59	66	46	83	58	82	61	73	60	54	45	69	45	98	59	75	56
3....	68	47	75	50	94	65	68	41	99	67	81	57	71	60	85	57	84	51	79	58	65	48	81	45	97	54	77	61
4....	76	48	80	40	96	64	75	42	103	65	88	60	73	59	90	60	87	53	82	61	71	51	84	42	93	59	88	58
5....	76	40	84	40	100	65	78	45	105	65	90	62	61	53	92	60	87	55	82	60	74	58	88	41	95	59	92	66
6....	82	40	90	40	101	64	78	45	102	71	92	62	60	51	96	61	88	56	79	62	82	63	91	45	100	62	97	65
7....	87	47	91	41	100	65	80	41	100	75	94	59	59	52	98	64	87	55	79	62	78	65	92	48	105	64	96	65
8....	78	49	82	40	100	63	84	46	105	74	88	57	66	51	94	60	87	55	75	59	72	55	85	47	101	60	87	66
9....	70	34	78	38	98	65	88	49	105	71	86	53	59	46	95	58	85	50	84	60	73	56	88	43	99	57	90	65
10....	79	40	87	33	100	62	91	52	106	76	91	55	60	48	97	61	86	52	91	63	83	67	92	43	96	57	97	67
11....	85	48	91	37	104	66	92	53	110	79	96	56	73	51	102	64	88	54	91	68	85	71	98	48	101	58	100	63
12....	86	47	90	43	103	68	92	48	105	76	95	60	65	52	100	66	90	57	94	67	77	65	97	52	101	69	101	66
13....	79	45	84	41	92	70	92	49	101	78	85	56	60	53	95	66	84	62	98	67	78	62	91	48	105	65	93	62
14....	74	40	83	36	94	62	96	54	100	74	95	53	79	51	94	59	85	54	84	62	79	66	94	52	100	58	95	63
15....	77	38	86	36	100	63	98	55	105	71	99	67	65	48	100	64	89	58	86	62	91	76	95	48	101	61	100	77
16....	83	43	93	46	100	68	97	55	106	69	101	79	73	52	103	65	90	60	99	64	95	78	99	55	107	68	105	81
17....	88	46	95	43	101	61	98	55	108	72	99	70	55	49	105	69	90	60	108	80	94	83	101	52	109	68	104	72
18....	82	42	88	43	103	60	98	55	104	69	97	66	56	49	107	69	90	56	90	69	93	73	98	54	112	75	104	69
19....	83	46	92	36	104	62	95	49	.....	.....	96	62	67	47	102	68	94	59	81	65	73	64	98	51	105	72	102	71
20....	87	44	91	39	105	64	94	45	.....	.....	91	64	59	50	87	66	90	59	82	64	75	56	90	49	92	79	86	62
21....	75	53	80	55	100	66	91	48	107	75	86	62	65	52	90	63	91	60	85	62	69	54	86	54	96	65	90	68
22....	58	25	68	34	98	63	90	48	104	74	83	63	58	49	88	61	83	58	78	60	77	62	86	46	92	61	80	64
23....	58	29	63	32	85	60	88	48	105	74	80	62	72	42	84	54	65	46	73	64	73	58	76	45	86	54	80	61
24....	64	25	73	23	83	57	85	46	90	70	82	56	69	50	86	58	69	41	79	63	66	53	81	41	90	54	84	57
25....	71	30	79	25	85	55	86	47	88	62	83	49	52	45	86	56	73	46	79	58	71	59	84	37	92	52	87	53
26....	74	33	80	27	85	57	80	45	88	51	.....	.....	60	44	88	58	74	41	87	63	76	63	85	37	93	54	84	54
27....	74	35	79	31	86	58	75	43	91	52	83	50	65	48	90	58	75	39	91	61	76	52	84	39	94	55	85	53
28....	69	37	74	32	94	61	65	40	93	53	.....	.....	61	54	88	55	80	42	87	63	62	49	80	38	93	54	79	53
29....	55	32	61	36	88	68	80	37	98	54	.....	.....	58	48	78	52	76	48	77	58	64	49	78	37	82	52	76	55
30....	64	28	71	30	85	60	88	39	88	56	.....	.....	60	44	82	48	74	46	80	60	76	57	85	36	89	52	87	63
Mns..	75.0	40.0	81.5	38.3	95.6	63.3	84.9	47.1	100.4[b]	68.1[b]	90.1[d]	59.8[d]	62.8	49.7	92.5	60.8	83.5	53.1	84.2	62.9	75.0	60.1	87.8	45.9	97.3	60.7	90.2	63.2

Date.	California.																									
	Redlands.		Sacramento.		San Diego.		San Francisco.		San Jose.		San Luis Obispo.		Santa Barbara.		Santa Rosa.		Sisson.		Stockton.		Summit.		Susanville.		Yosemite.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1.....	80	62	75	56	72	66	63	55	74	58	63	57	66	62	.....	.....	71	53	70	56	68	53	84	.....	93	48
2.....	81	60	70	55	72	65	66	56	72	54	66	54	69	59	.....	.....	58	47	76	55	65	40	71	50	93	46
3.....	87	51	80	57	71	63	69	58	76	50	75	52	72	52	.....	.....	63	46	78	55	63	47	80	49	92	45
4.....	95	55	89	56	74	61	70	59	78	59	85	57	80	52	.....	.....	73	47	84	55	66	39	83	47	89	43
5.....	91	57	89	58	71	64	64	57	76	55	83	54	76	56	.....	.....	74	48	85	58	71	40	92	47	91	42
6.....	91	56	92	58	70	63	75	55	88	48	76	50	70	56	.....	.....	76	44	90	56	76	47	93	49	94	43
7.....	88	56	92	60	73	64	60	52	81	54	69	51	70	57	.....	.....	82	43	85	56	72	47	90	52	95	40
8.....	91	55	88	54	71	63	62	52	76	54	70	51	67	55	.....	.....	75	43	85	55	72	47	84	52	92	41
9.....	94	57	88	53	75	64	70	53	83	48	80	47	78	49	.....	.....	68	37	86	55	69	40	.....	40	92	40
10.....	98	59	94	59	78	64	82	59	93	52	84	45	83	48	.....	.....	78	41	92	60	71	46	87	.....	93	37
11.....	98	51	98	61	87	66	74	53	88	53	84	47	82	50	.....	.....	86	47	94	63	71	46	92	44	92	40
12.....	100	59	87	59	86	69	62	53	76	52	77	48	89	54	.....	.....	85	45	82	62	75	48	94	53	100	42
13.....	95	69	82	53	85	68	59	52	72	52	76	50	84	59	.....	.....	79	49	86	56	75	50	.....	50	95	39
14.....	97	68	94	54	74	64	74	54	83	48	71	50	78	49	.....	.....	83	49	88	58	71	40	88	.....	97	40
15.....	102	61	98	60	73	59	94	59	97	50	98	48	86	52	.....	.....	88	50	95	60	73	46	.....	46	97	40
16.....	105	69	103	69	78	64	101	68	103	60	104	60	103	57	.....	.....	92	55	100	65	76	53	90	.....	99	42
17.....	105	68	104	70	110	71	84	62	102	63	109	62	108	63	.....	.....	82	43	101	66	79	48	.....	49	102	42
18.....	97	71	99	70	82	70	92	62	100	59	100	63	85	65	.....	.....	89	48	98	67	77	49	95	.....	103	46
19.....	91	59	99	63	75	67	77	56	92	59	82	61	79	63	.....	.....	86	53	96	65	78	48	89	49	101	45
20.....	93	57	79	62	75	67	71	56	79	58	77	57	72	60	.....	.....	80	40	81	62	77	47	92	49	101	45
21.....	93	62	87	59	75	67	69	56	79	59	73	56	76	56	.....	.....	81	41	84	62	66	53	82	55	90	46
22.....	80	54	83	61	72	65	79	56	85	52	79	52	70	56	.....	.....	61	31	86	58	63	42	72	34	90	44
23.....	78	60	83	62	73	64	80	55	83	54	76	53	70	58	.....	.....	65	36	86	60	61	34	66	35	89	38
24.....	82	50	82	54	75	63	68	55	76	49	76	56	75	59	.....	.....	72	33	87	52	60	33	72	28	80	32
25.....	87	50	85	54	72	57	69	55	81	50	79	50	75	52	.....	.....	77	39	83	54	61	34	75	32	85	31
26.....	87	58	84	55	80	58	73	54	82	46	87	49	88	49	.....	.....	78	36	86	53	64	35	83	35	85	31
27.....	88	54	87	54	83	61	68	55	81	46	90	52	86	49	.....	.....	68	42	86	53	65	38	81	40	85	34
28.....	88	54	81	52	78	60	64	55	76	48	84	46	84	49	.....	.....	56	33	83	52	65	35	80	38	85	33
29.....	83	50	77	55	70	59	70	56	75	45	78	54	72	53	.....	.....	57	33	83	51	60	33	64	35	80	32
30.....	85	52	88	60	71	60	79	61	84	46	83	58	80	51	.....	.....	58	32	86	58	58	35	45	31	86	32
Mean.....	91.0	58.1	87.6	58.4	76.7	63.9	72.8	56.3	82.9	52.7	81.1	53.0	79.1	55.0	.....	.....	74.0	42.8	86.7	57.9	68.9	49.8	81.7[d]	43.6[e]	92.2	40.0

[a], [b], [c], etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.
§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.

CLIMATOLOGICAL DATA FOR SEPTEMBER, 1913.

DISTRICT NO. 12, COLUMBIA VALLEY.

EDWARD A. BEALS, District Editor.

GENERAL SUMMARY.

September was an unusually pleasant month in the Columbia Valley. There was a little more precipitation than common, but it fell in well distributed periods, and while slightly injurious to hops and prunes, was on the whole beneficial. Temperature fluctuations were frequent and rapid, but generally of small amplitude, and therefore not disagreeable. Frosts at the beginning of the third decade brought the growing season to a close in nearly all localities east of the Cascade Mountains; to the west of this range no killing frosts have yet occurred in the agricultural sections, except in a few exposed places. There were many small but no large forest fires and the atmosphere was remarkably free of smoke for this season of the year. Transportation interests and construction work suffered few delays on account of the weather, which was also as a rule favorable for maturing and harvesting late crops.

TEMPERATURE.

The month was warmer than usual in all parts of the district, except at a few scattered places in central and northeastern Oregon, central and southeastern Washington and at the headwaters of the Snake River in southeastern Idaho. It was decidedly warmer in southern and eastern Oregon where the temperature ranged from 1° to more than 5° above the normal, and much cooler in south-central Washington where it was from 1° to more than 2° below the September average.

The mean temperature of the district, as determined from the records of 288 stations, was 58°, which is 0.7° above normal. The highest temperature, 101°, was recorded on the 16th and 19th at Glendale, Oreg., at an elevation of 1,440 feet, and the lowest temperature, 7°, occurred on the 25th at Follyfarm, in southeastern Oregon, at an altitude of 3,710 feet. The greatest daily range in temperature, 70°, was at Pleasant Valley, Mont., at which station was also recorded the lowest monthly mean, 47.6°, while the highest monthly mean, 66.6°, was at Garnet, Idaho. The table shows for comparative purposes the mean temperature and departure from normal for the States of Oregon, Washington, and Idaho, and those portions of Montana and Wyoming in District No. 12, for the month of September during the last five years.

Years.	Oregon.		Washington.		Idaho.		Montana.		Wyoming.	
	Mean.	Departure.	Mean.	Departure.	Mean.	Departure.	Mean.	Departure.	Mean.	Departure.
1909	60.4	+1.8	60.8	+1.6	58.2	+1.6	55.3	+0.2	49.2	.....
1910	54.6	−0.7	58.3	+0.6	58.0	+0.7	52.4	−0.1	52.2	+1.8
1911	55.6	−2.7	56.3	−1.9	56.4	−1.7	51.8	−1.0	47.7	−2.0
1912	57.1	−1.6	57.4	−1.0	52.4	−5.2	48.4	−5.0	45.8	−5.6
1913	58.5	+1.0	56.8	+0.4	58.1	+0.1	54.7	+1.3	50.5	−1.3

PRECIPITATION.

More than the usual amount of rain fell west of the Cascade Mountains and in extreme southeastern Idaho; elsewhere the precipitation was generally less than the average. The rainfall was unusually heavy along the northern Oregon and southern Washington coasts where it was from 3 to 6 inches in excess of the September normal. Some snow was reported from stations in high altitudes.

The average precipitation for the district, as computed from the records of 378 stations, was 1.48 inches, which is 0.16 of an inch above the normal. The greatest 24-hour rainfall, 5.20 inches, occurred at Goat Lake, Wash., on the 4th, at an elevation of 2,900 feet. The greatest monthly amount, 11.81 inches, was also recorded at the last named station, and no rain fell at Big Basin, Oreg., and Eltopia, Wash. Snowfall to the depth of 8.8 inches was reported from Hat Creek, Mont., at an altitude of 6,000 feet.

The average monthly precipitation with departure from normal for the month of September during the last five years is also shown in the following table for the States of Oregon, Washington, and Idaho, and for those portions of Montana and Wyoming in District No. 12:

Years.	Oregon.		Washington.		Idaho.		Montana.		Wyoming.	
	Mean.	Departure.	Mean.	Departure.	Mean.	Departure.	Mean.	Departure.	Mean.	Departure.
1909	1.39	−0.41	1.38	−0.77	1.95	+0.77	2.37	+0.52	2.80	.....
1910	0.94	−0.71	1.29	−0.49	1.07	−0.03	2.20	+0.61	0.94	+0.25
1911	2.60	+1.40	3.01	+1.09	0.80	+0.08	1.93	+0.54	1.49	−0.14
1912	1.42	−0.30	1.05	−0.70	0.97	−0.05	1.59	+0.23	1.48	+0.24
1913	1.47	+0.32	2.14	+0.29	0.82	−0.06	0.66	−0.88	1.77	+0.44

THE RIVERS.

The Willamette River and tributaries preserved a nearly normal stage during the month, except for a small rise during the first week when the maximum stages were recorded. The Columbia and Snake Rivers were above the normal, and the water in the latter rose during the month, so that the maximum heights were recorded between the 25th and 30th and the minimum during the first decade. In the Columbia the highest stages were observed on the 1st and the lowest toward the end of the month.

The following table summarizes river conditions throughout the district:

Station.	River.	Highest.	Date.	Lowest.	Date.	Mean.	Normal.
Albany	Willamette	2.2	5th	1.0	*20th	1.3	1.1
Salem	do	2.5	5th	−0.4	*21st	0.2	0.4
Wilsonville	do	5.4	6th	1.0	*27th	2.6	2.5
Oregon City	do	4.8	7th	1.3	*24th	2.6	.....
Portland	do	5.9	*2d	2.8	25th	4.4	3.5
Jefferson	Santiam	2.5	5th	1.0	*14th	1.2	1.3
McMinnville	Yamhill	8.5	5th	−0.3	*1st	0.8	0.7
Cazadero	Clackamas	2.3	*4th	1.1	*19th	1.3	.....
Kamiah	Clearwater	3.3	*23d	2.5	21st	2.8	.....
Weiser	Snake	5.3	30th	2.0	1st	3.3	2.8
Lewiston	do	2.1	*21st	0.8	*1st	1.6	1.2
Riparia	do	2.9	*25th	1.5	*7th	2.3	1.8
Bonners Ferry	Kootenai	7.4	7th	3.5	30th	4.9	3.8
Newport	Pend Oreille	1.9	1st	0.1	30th	0.8	0.4
Northport	Columbia	4.9	1st	0.2	30th	3.0	1.1
Wenatchee	do	13.8	*7th	9.1	30th	12.3	10.7
Umatilla	do	.....	.....	4.4	30th	.....	.....
The Dalles	do	9.1	1st	6.2	30th	7.9	7.1
Cascade Locks	do	6.5	1st	4.4	*29th	5.7	5.2
Vancouver	do	5.3	1st	2.6	25th	4.1	3.7

NOTE.—The asterisk (*) indicates that the stage was observed on more than one date.

MISCELLANEOUS PHENOMENA.

The prevailing winds were westerly and on several dates were of gale force in some sections; maximum velocities of 50, or more, miles an hour were reported as follows: North Head, Wash., 68 miles, from the southwest on the 2d, and Tatoosh Island, Wash., 52 miles, from the south, on the 3d.

Killing frosts were quite general in eastern Oregon during the first and second decades, but caused little damage as crops were generally matured; some heavy frosts also formed during the third decade at stations in Idaho and eastern Washington.

Thunderstorms occurred in Idaho on a number of days and in some instances were accompanied by hail. Storms of this character were also reported from a few stations in Oregon and Washington.

A solar corona was observed at Doraville, Oreg., on the 22d, and a lunar halo at Prineville, Oreg., on the 14th.

TABLE 1.—*Climatological data for September, 1913. District No. 12, Columbia Valley.*

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, 0.01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Montana.																				
Anaconda	Deer Lodge	5,330	11	54.3	+ 0.6	85	7	25	24	45	0.46	− 0.90	0.13	0.1	6	22	6	2	.....	C. D. Demond.
Butte	Silver Bow	5,716	18	54.4	+ 1.5	82	7	20	22	39	0.54	− 0.64	0.26	4.4	4	21	4	5	nw.	J. R. Wharton.
Columbia Falls	Flathead	3,100	17	55.4	+ 2.4	87	8	25	10	47	0.38	− 1.74	0.25	0	4	19	6	5	sw.	J. M. Grist.
Como	Ravalli	3,750	4	58.2	.....	90	3	30	24	40	0.57	.....	0.30	0	5	24	1	5	.....	Hiram Platt.
Dayton	Flathead	2,925	8	55.8	.....	83	4	28	24	36	0.30	.....	0.20	0	2	22	5	3	.....	A. J. Ruechel.
Deer Lodge	Powell	4,509	1	.....	.....	.....	.....	.....	.....	.....	0.58	.....	0.24	0	6	21	8	1	.....	H. B. Grant.
East Anaconda	Deer Lodge	5,500	7	54.8	.....	85	7	26	24	38	0.44	.....	0.12	0.2	7	22	6	2	s.	C. D. Demond.
Fortine	Lincoln	2,975	7	52.2	.....	80	18	22	27	55	1.18	.....	0.48	0	12	15	9	6	w.	Mike Petery.
Hamilton	Ravalli	3,524	10	58.5[b]	+ 2.0	86[f]	4	35[i]	11	43[j]	0.33	− 0.87	0.15	0	5	25	0	5	nw.	Hamilton Chamber of Commerce.
Hat Creek	Powell	6,000	3	.....	.....	.....	.....	.....	.....	.....	2.06	.....	0.71	8.8	4	11	16	3	w.	M. K. Landreth.
Haugan	Missoula	3,150	1	53.2	.....	88	7	21	24	62	0.54	.....	0.14	0	6	11	16	3	sw.	U. S. Forest Service.
Heron	Sanders	2,261	1	54.4	.....	85	12	26	24	51	1.03	.....	0.29	0	8	17	6	7	w.	E. Knott.
Kalispell	Flathead	2,965	16	53.4	− 0.5	80	4	27	24	41	0.31	− 1.02	0.27	0	2	16	8	6	w.	U. S. Weather Bureau.
Libby	Lincoln	2,075	3	55.8	+ 0.9	87	12	24	20†	59	1.16	− 0.54	0.33	0	9	16[a]	8[a]	5[a]	.....	U. S. Forest Service.
Missoula	Missoula	3,225	34	57.3	+ 1.6	89	4	26	25	52	0.74	− 0.51	0.28	0	6	19	4	7	sw.	U. S. Weather Bureau.
Ovando	Powell	4,050	13	51.2	+ 0.9	85	5	16	24	51	0.46	− 0.91	0.16	0	5	0	30	0	w.	S. B. Muchmore.
Philipsburg	Granite	5,273	9	55.0	.....	89	7†	20	24	58	0.45	.....	0.27	4.0	4	25[b]	1[b]	2[b]	sw.	G. T. Bramble.
Plains	Sanders	2,473	14	57.6	+ 2.1	88	17	27	24	48	0.66	− 0.82	0.36	0	3	17	12	1	sw.	James M. Self.
Pleasant Valley	Flathead	3,500	5	47.6	.....	83	12†	10	24	70	0.44	.....	0.12	0	7	17	0	13	w.	A. D. Stillman.
Poison	....do	2,920	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. P. Brown.
Saint Ignatius	Missoula	2,911	7	56.8	.....	86	16	27	24	52	0.93	.....	0.39	0	5	20	8	2	.....	U. S. Reclamation Service.
Saltese	....do	3,600	8	.....	.....	.....	.....	.....	.....	.....	0.74	.....	0.36	0	8	18	0	12	w.	Martin S. Pixley.
Stevensville	Ravalli	3,500	1	56.0	.....	86	7	25	24	47	0.36	.....	0.22	0	4	22	4	4	w.	University Orchard Co.
Thompson Falls	Sanders	2,424	1	54.2	.....	85	2†	24	24	52	0.52	.....	0.21	0	6	21	4	5	w.	U. S. Forest Service.
Trout Creek	....do	2,375	1	.....	.....	.....	.....	.....	.....	.....	0.54	.....	0.29	0	2	16	0	14	sw.	James Hylent.
Victor Stock	Ravalli	3,537	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. W. Fisher.
Willow Glen Farm	Deer Lodge	5,064	2	52.4	.....	85	8†	21	25	53	.....	.....	.....	.....	.....	21	3	6	ne.	G. E. Luce.
Wyoming.																				
Afton	Lincoln	6,200	9	51.4	.....	81	5	18	25	47	2.45	.....	0.45	1.5	9	19	5	6	n.	A. V. Call.
Alta	....do	6,500	3	49.4	.....	79	6†	13	25	49	1.90	.....	0.44	1.0	10	12	12	6	.....	Mrs. Lucy Brown.
Bechler River	Yellowstone Park.	6,500	1	.....	.....	.....	.....	.....	.....	.....	1.47	.....	0.54	0.4	6	19	4	7	sw.	U. S. Army.
Bedford	Lincoln	5,900	13	49.6	− 1.3	75	5†	17	25	48	1.37	+ 0.44	0.45	T.	8	17	7	6	w.	C. G. Heiner.
Moran	....do	6,770	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	U. S. Reclamation Service.
Snake River	Yellowstone Park.	7,000	7	50.4	.....	84	5	13	26	65	1.78	.....	0.40	2.1	8	24	2	4	sw.	U. S. Army.
Nevada.																				
San Jacinto	Elko	.....	8	53.8	.....	85	1	10	24	57	50	.....	48	0	2	.....	.....	.....	.....	F. W. Marchant.
Utah.																				
Standrod	Boxelder	.....	.....	58.2	.....	81	5	23	24	34	1.11	.....	0.50	0.8	6	22	6	2	sw.	T. B. Jones.
Idaho.																				
Albion	Cassia	4,650	10	57.8	+ 1.1	87	5†	16	25	57	0.56	− 0.15	0.21	0	3	18	11	1	w.	C. E. Bocock.
Almo	....do	.....	3	.....	.....	.....	.....	.....	.....	.....	0.83	.....	0.63	0	2	24	0	6	.....	Wm. D. Cahoon.
American Falls	Power	4,341	21	59.8	+ 2.1	94	1	22	27	56	1.28	+ 0.58	0.72	0	3	24	6	0	ne.	Geo. Stoll.
Arrowrock	Boise	3,100	1	63.2	.....	96	12	30	24	50	0.79	.....	0.32	0	5	24	3	3	w.	U. S. Reclamation Service.
Blackfoot	Bingham	4,503	17	56.4	− 0.4	87	5†	18	25	51	1.50	+ 0.92	1.24	0	4	20	7	3	sw.	E. A. Dowd.
Blackfoot Dam	Bannock	6,200	3	53.6	.....	83	12	16	25	49	1.57	.....	0.55	T.	7	16	3	11	nw.	S. C. Waddell.
Bogus Creek	Boise	4,200	4	.....	.....	.....	.....	.....	.....	.....	0.94	.....	0.47	0	4	18	12	0	.....	F. P. Ingraham.
Boise	Ada	2,739	27	62.2	+ 0.3	93	7	36	25	42	0.65	+ 0.24	0.29	0	3	20	5	5	nw.	U. S. Weather Bureau.
Boise King	Elmore	.....	.....	56.2	.....	89	7	22	24	51	0.53	.....	0.26	0	3	19	6	5	.....	A. W. Stevens.
Bonners Ferry	Bonner	1,850	6	53.9	.....	82	12†	29	24	46	1.14	.....	0.44	0	3	22	4	4	sw.	W. H. Heideman.
Boulder Mine	Boise	4,800	3	.....	.....	.....	.....	.....	.....	.....	0.71	.....	0.33	0	4	24	1	5	.....	Patrick Moriarty.
Buhl	Twin Falls	3,800	6	60.6	.....	88	7	24	25	48	0.05	.....	0.05	0	1	21	8	1	sw.	S. C. Orr.
Caldwell	Canyon	2,372	8	60.0	.....	89	12	28	25	47	0.40	.....	0.23	0	3	15	12	3	w.	Wm. J. Boone, D. D.
Caldwell Exp. Station	....do	.....	1	60.4[d]	.....	90[a]	17	26	24	51[a]	0.35	.....	0.30	0	2	.....	.....	.....	.....	C. B. Hampson.
Cambridge	Washington	2,651	17	59.4[i]	− 0.4	91[i]	15	25[i]	26	53[i]	.....	.....	.....	0	.....	.....	.....	.....	w.	C. H. Shepherd.
Cedar Creek Dam	Twin Falls	5,220	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Hoffman.
Chesterfield	Bannock	5,424	16	51.0	− 0.3	82	4†	13	25	56	1.37	+ 0.67	0.58	T.	6	15	12	3	.....	C. S. West.
Clarks Fork	Bonner	2,084	1	54.4	.....	77	13	32	10	40	1.56	.....	0.46	0	5	16	8	6	e.	Wm. Potter.
Coeur d'Alene	Kootenai	2,157	18	60.0	.....	92	12	31	2	51	0.50	− 0.89	0.24	0	4	.....	.....	.....	.....	J. H. O'Rourke.
Council	Adams	3,059	1	60.3[d]	.....	92[d]	7†	29[d]	24†	53[d]	0.23	.....	0.13	0	2	.....	.....	.....	.....	F. L. Featherston.
Culdesac	Nez Perce	1,520	4	60.4	.....	95	7†	30	24	55	0.60	.....	0.30	0	6	17	10	3	.....	Mrs. B. B. Caldwell.
Deary	Latah	2,854	1	57.5[e]	.....	92[e]	12	26[e]	24	56[e]	1.18	.....	0.35	0	5	.....	.....	.....	sw.	W. J. Davis.
Dent	Clearwater	1,350	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Emil Schuessler.
Driggs	Fremont	6,097	6	49.9	.....	80	5	13	25	47	1.59	.....	0.70	T.	4	10	17	3	sw.	W. H. Durrant.
Emmett	Canyon	2,350	6	64.4	.....	96	12	31	24	51	0.36	.....	0.30	0	2	25	3	2	w.	U. S. Forest Service.
Forney	Lemhi	6,000	12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. B. Merritt.
Garnet	Elmore	2,575	13	66.6	+ 0.9	97	12	32	26	49	0.20	− 0.13	0.20	0	1	23	4	3	e.	A. A. Kenison.
Geneva	Bear Lake	6,171	4	.....	.....	.....	.....	.....	.....	.....	0.74	.....	0.35	T.	5	24	2	4	.....	F. W. Boehme.
Glenns Ferry	Elmore	2,569	4	62.9	.....	99	12	21	26	67	0.03	.....	0.03	0	1	22	4	4	w.	I. E. Perkins.
Gooding	Gooding	3,572	3	61.2	.....	92	7†	21	24	53	0.05	.....	0.04	0	2	22	3	5	w.	J. S. Welch.
Grace	Bannock	5,400	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. W. Joy.
Grand Forks	Shoshone	3,000	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Claget Sanders.
Grand View	Owyhee	2,300	3	.....	.....	95	1†	25	.....	61	.....	.....	.....	0	.....	.....	.....	.....	nw.	H. E. Hanna.
Grimes Pass	Boise	5,200	3	.....	.....	.....	.....	.....	.....	.....	0.60	.....	0.31	T.	4	.....	.....	.....	.....	Jos. M. Clarke.
Guffey	Owyhee	2,381	4	66.5	.....	98	7	32	25	52	0.55	.....	0.34	0	3	28	2	0	w.	Fred Perry.
Hailey	Blaine	5,347	10	56.8	+ 1.1	87	7	23	24	43	0.33	− 0.49	0.18	T.	3	18	6	6	sw.	U. S. Forest Service.
Hollister	Twin Falls	4,550	1	55.3	.....	88	12†	13	24	58	0.49	.....	0.22	0	5	18	9	3	w.	J. W. Bouton.
Hotspring	Owyhee	2,590	7	64.2	.....	92	12	30	25	45	0.70	.....	0.30	0	3	21	6	3	.....	J. M. Waterhouse.
Idaho Falls	Bonneville	4,742	18	56.0	− 0.4	84	6	21	25	45	0.88	+ 0.09	0.43	0	4	21	0	9	ne.	Dr. T. M. Bridges.
Indian Cove	Owyhee	.....	.....	64.3	.....	100	2	25	25	53	0.60	.....	0.54	0	2	23	4	3	w.	Capt. O. M. Carter.
Indian Valley	Adams	2,999	4	.....	.....	.....	.....	.....	.....	.....	0.16	.....	0.16	0	1	25	3	2	n.	A. M. Henke.
Irwin	Bonneville	6,500	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mrs. Eva Buckland.
Kellogg	Shoshone	2,305	8	55.6	.....	93	12	28	10†	58	1.23	.....	0.72	0	8	20	2	8	.....	W. McM. Huff.
Kilgore	Fremont	.....	.....	49.4[a]	.....	78[a]	6	13[a]	25	41[a]	5.00	.....	2.25	1.5	5	20	5	5	sw.	W. H. McCormick.
Kirkham	Boise	4,200	3	.....	.....	.....	.....	.....	.....	.....	0.65	.....	0.50	T.	2	18	10	2	w.	Mrs. Josie B. West.
Kooskia	Idaho	1,261	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	U. S. Forest Service.

TABLE 1.—*Climatological data for September, 1913. District No. 12*—Continued.

Stations.	Counties.	Elevation, feet	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Sky.				Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Idaho—Continued.																				
Lakeview	Bonner	2,250	15	54.4	− 1.1	78	16	34	18	41	1.17	− 0.51	0.55	0	6	13	5	12	sw.	E. D. Faust.
Landore	Adams	5,300	8	52.8	.....	84	7	22	24	57	0.62	.....	0.24	T.	5	24	6	0	.....	Mrs. Emma L. Brown.
Leadore	Lemhi	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Tom Keating.
Lewiston	Nez Perce	757	19	63.9	+ 0.4	96	17	36	24	48	0.60	− 0.05	0.37	0	6	20	6	4	e.	U. S. Weather Bureau.
Little Camas	Elmore	5,000	3	.....	.....	.....	.....	.....	.....	.....	0.26	.....	0.14	T.	4	8	14	8	w.	Solon McCoy.
Loon Creek	Custer	6,000	3	.....	.....	82[i]	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	sw.	Mrs. Mary Williams.
Mackay	do	5,897	5	55.8	.....	83	8	22	24	40	0.85	.....	0.42	0	3	23	7	0	nw.	U. S. Forest Service.
Malad	Oneida	4,700	....	59.4[d]	.....	93[e]	6	25[d]	25	50[e]	1.49	.....	0.35	0	8	14	11	5	.....	Uther Jones.
Meridian	Ada	2,657	2	62.1	.....	93	12	29	25	46	0.46	.....	0.25	0	3	21	6	3	nw.	A. W. Garrett.
Mesa	Adams	3,275	2	62.7	.....	93	7	34	25	43	0.26	.....	0.26	0	1	12	0	18	n.	I. S. Carter.
Middle Fork	Idaho	1,397	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jos. McGhee.
Milner	Twin Falls	4,110	9	60.2	− 0.4	88	5†	24	24	52	0.45	+ 0.01	0.20	0	3	17	9	4	w.	James K. Young.
Moore	Blaine	5,700	12	56.2	+ 1.4	83	1	22	24	46	1.01	+ 0.41	0.80	0	2	26	2	2	.....	Chas. B. Lemon.
Moscow	Latah	2,748	20	57.5	+ 0.2	90	13	31	23†	40	0.91	− 0.32	0.42	0	3	15	10	5	se.	University of Idaho.
Mountainhome	Elmore	3,150	7	60.6	.....	93	7	20	26	69	0.10	.....	0.06	0	2	21	5	4	nw.	Mrs. Ellen Manion.
Murtaugh	Twin Falls	.....	6	57.2[c]	.....	83[c]	17	21[c]	25	46[c]	1.05	.....	0.50	0	4	19	11	0	w.	J. E. Steinour.
New Meadows	Adams	3,950	8	50.7	.....	90	7	15	24†	64	0.54	.....	0.37	0	6	17	12	1	n.	Lee Highley.
Nezperce	Lewis	3,082	3	56.0	.....	89	7†	26	24	54	0.63	.....	0.34	0	4	21	5	4	.....	P. Mitchell.
Oakley	Cassia	4,700	19	60.0	+ 0.8	87	4	26	24†	48	0.65	− 0.10	0.44	0	2	15	11	4	.....	John Adams.
O'Hara Bar	Idaho	1,557	2	.....	.....	.....	.....	31[r]	25	.....	1.50	.....	1.10	0	.....	.....	.....	.....	.....	J. D. Agnew.
Orofino	Clearwater	1,027	8	61.5	.....	96	12	30	24	54	0.53	.....	0.45	0	3	22	6	2	.....	Geo. Alteneder.
Paris	Bear Lake	5,946	18	53.2	− 1.3	80	1†	17	25	48	0.50	− 0.43	0.20	T.	4	20	6	4	w.	John Norton.
Payette	Canyon	2,159	21	61.6	+ 0.1	92	13	25	25†	54	0.14	− 0.40	0.09	0	3	21	4	5	n.	E. F. Allen.
Pierson	Custer	7,000	4	48.8	.....	82	7	11	24	60	1.05	.....	0.68	0	2	25	1	4	n.	D. P. Clarke.
Pleasant Valley	Ada	3,000	5	61.2	.....	95	12	25	24	52	0.62	.....	0.42	0	3	26	1	3	s.	C. E. Friedrich.
Pocatello	Bannock	4,483	13	59.2	− 1.5	86	5	25	25	42	0.88	0.00	0.34	T.	7	15	8	7	se.	U. S. Weather Bureau.
Pocatello Nursery	do	5,396	6	55.9[e]	.....	84[e]	4†	21[e]	27	50[e]	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mrs. Fannie Say.
Poplar	Bonneville	5,500	3	54.0	.....	88	1	17	23	47	0.86	.....	0.37	0	5	23	4	3	sw.	C. M. Lawrence.
Porthill	Bonner	1,665	23	53.6	− 0.1	78	13†	29	24	38	1.11	− 0.85	0.55	0	6	21	3	6	sw.	H. A. French.
Priest River Experiment Station No. 1.	do	2,500	1	52.2	.....	77	12†	30	24†	39	1.98	.....	0.73	0	8	17	7	6	sw.	U. S. Forest Service.
Priest River Experiment Station No. 2.	do	2,500	1	55.9	.....	86	12	29	24	49	1.85	.....	0.72	0	8	17	7	6	sw.	Do.
Priest River Experiment Station No. 3.	do	.....	1	52.4	.....	86	12	23	19†	58	2.00	.....	0.83	0	8	17	7	6	se.	Do.
Pyle Creek	Boise	3,100	3	.....	.....	.....	.....	.....	.....	.....	0.32	.....	0.11	0	4	24	3	3	s.	P. V. Smith.
Richfield	Lincoln	4,306	3	58.3	.....	88	7†	23	24†	48	1.01	.....	0.72	0	3	20	9	1	sw.	Idaho Irrigation Co.
Rogerson	Twin Falls	.....	....	59.0[e]	.....	88[e]	12	19[e]	25	48[e]	.....	.....	.....	0	.....	.....	.....	.....	.....	J. S. Bussell.
Roseberry	Boise	4,872	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. T. P. Graham.
Roseworth	Twin Falls	4,650	2	.....	.....	.....	.....	.....	.....	.....	0.51	.....	0.27	0	5	6	24	0	nw.	D. B. Hartwell.
Rupert	Minidoka	4,204	6	58.8	.....	88	4†	22	25	54	0.29	.....	0.18	0	3	23	3	4	sw.	Will Parry.
St. Anthony	Fremont	4,968	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Heber C. Sharp.
St. Maries	Kootenai	2,263	15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. S. Turnbull.
St. Michael's Priory	Idaho	3,811	....	57.4	.....	82	12	33	23	37	1.03	.....	0.39	0	6	19	5	6	se.	Rev. Father Berthold, O. S. B
Salmon	Lemhi	4,040	7	57.4	.....	91	5	19	24†	57	0.65	.....	0.37	0	5	20	6	4	w.	E. K. Abbott.
Sandpoint	Bonner	2,086	2	55.0[n]	.....	80[n]	12	28[n]	24	47[n]	2.11	.....	0.80	0	6	.....	.....	.....	ne.	S. M. Moore.
Sheep Hill	Boise	5,000	3	.....	.....	.....	.....	.....	.....	.....	0.35	.....	0.19	0	3	.....	.....	.....	.....	C. M. Gardner.
Shoshone	Lincoln	3,968	5	59.9	.....	89	7†	24	24	44	0.47	.....	0.47	0	1	19	11	0	w.	Zell Truman.
Silver City	Owyhee	6,280	5	.....	.....	.....	.....	.....	.....	.....	0.36	.....	0.21	0	3	23	5	2	.....	Russell Stoddard.
Soldier Creek	Blaine	5,755	2	.....	.....	82[n]	7	.....	.....	.....	0.56	.....	0.18	0	5	.....	.....	.....	nw.	J. E. Minear.
Spirit Lake	Kootenai	2,560	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. C. Krause.
Springfield	Bingham	4,420	4	57.9	.....	90	5†	19	25	54	0.77	.....	0.44	0	4	16	10	4	sw.	Mrs. W. A. Edwards.
Spring Hill	Ada	3,607	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Ray G. Lyons.
Sugar	Fremont	4,892	5	53.0	.....	81	7†	18	25	48	1.26	.....	0.55	T.	5	19	3	8	sw.	Utah-Idaho Sugar Co.
Sunnyside	Elmore	3,500	3	.....	.....	.....	.....	32[d]	24	.....	T.	.....	T.	0	0	.....	.....	.....	.....	Col. M. M. Wood.
Tripod Mountain	Boise	4,300	3	.....	.....	.....	.....	.....	.....	.....	0.06	.....	0.06	0	1	23	5	2	.....	Mrs. Verna Paddock.
Twin Falls	Twin Falls	3,825	7	60.8	.....	90	12	22	25†	57	2.09	.....	0.94	0	4	9	17	4	sw.	J. A. Waters.
Vernon	Fremont	5,050	14	54.0	− 0.1	82	5	18	25	43	1.04	+ 0.10	0.30	T.	5	14	9	7	sw.	A. M. Slatery.
Wallace	Shoshone	2,728	5	55.0	.....	86	18	19	24	51	1.17	.....	0.30	0	9	.....	.....	.....	.....	U. S. Weather Bureau.
Weiser	Washington	2,114	1	63.9	.....	96	7†	24	26	55	0.13	.....	0.05	0	3	14	14	2	se.	J. W. Lapish.
Wendell	Gooding	3,400	4	60.7	.....	90	1†	25	24†	50	0.04	.....	0.04	0	1	22	6	2	w.	Chas. L. Dingler.
Weston	Franklin	4,460	14	58.8	+ 1.1	91	6	21	25	51	1.48	+ 0.58	0.60	0	7	18	2	10	n.	Wm. T. Chatterton.
Washington.																				
Aberdeen	Chehalis	162	22	59.2	+ 1.8	84	11†	39	23	40	6.27	+ 1.83	2.10	0	10	17	7	6	nw.	H. A. Benham.
Anacortes	Skagit	60	19	58.3[f]	.....	77	8	41[e]	30	33[e]	1.23	− 0.51	0.26	0	8	13	15	2	.....	Douglass Allmond.
Anatone	Asotin	2,800	....	52.8	.....	83	4†	26	26	50	1.41	.....	0.80	0	3	21	7	2	sw.	W. A. Hamilton.
Baker	Skagit	390	7	59.2	.....	83	12†	39	24	40	6.20	.....	1.90	0	9	14	4	12	.....	Robt. M. White.
Bellingham	Whatcom	60	18	58.8	+ 2.4	77	16	39	23	34	2.37	+ 0.10	0.97	0	8	17	9	4	.....	Sanford B. Mahew.
Bellingham (near)	do	107	2	56.9	.....	76	16	35	23	36	2.39	.....	0.79	0	10	14	11	5	.....	U. S. Bureau Plant Industry.
Blaine	do	57	16	55.3	+ 1.1	76	16	35	23	33	2.36	− 0.74	0.73	0	10	14	8	8	nw.	John W. Sheets.
Blewett	Chelan	2,200	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	John Burmeister.
Bremerton	Kitsap	40	15	.....	.....	.....	.....	.....	.....	.....	2.45	+ 0.72	1.28	0	5	.....	.....	.....	.....	U. S. Navy Yard.
Brewster	Okanogan	1,620	3	61.6	.....	87	17	36	10	38	0.34	.....	0.19	0	3	19	10	1	sw.	Mrs. H. F. Bertram.
Buckley	Pierce	685	....	57.3	.....	84	12	37	24	42	3.77	.....	1.58	0	11	11	12	7	sw.	Geo. C. Sears.
Bumping Lake	Yakima	3,400	2	50.7	.....	81	12†	28	23†	45	2.50	.....	1.27	0	6	13	8	9	.....	U. S. Reclamation Service.
Centralia	Lewis	212	20	58.0	− 0.3	85	12	34	24	45	2.21	− 0.26	1.23	0	9	12	14	4	n.	I. S. Turner.
Clearbrook	Whatcom	140	10	58.0	+ 2.0	84	12	34	19	44	5.56	+ 1.67	1.60	0	10	9	13	8	ne.	Geo. Gibbs.
Cle Elum	Kittitas	1,930	14	53.9	− 1.1	85	17	25	24†	52	1.58	+ 0.44	0.50	0	8	22	5	3	se.	J. A. Balmer.
Colfax	Whitman	2,300	24	57.6	+ 1.4	94	12†	24	24	59	0.85	− 0.24	0.60	0	3	20	2	8	n.	I. B. Doolittle.
Colville	Stevens	1,635	13	55.4	− 1.0	85	7	29	10†	52	1.19	+ 0.36	0.50	0	4	22	3	5	sw.	W. L. Sax.
Conconully	Okanogan	2,300	13	56.6	+ 0.5	82	12†	34	10†	42	0.63	− 0.41	0.28	0	3	20	5	5	.....	Wm. Baines.
Coulee City	Grant	2,400	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. Jolly.
Cowiche	Yakima	1,874	2	60.9	.....	92	1	40	10†	34	0.12	.....	0.10	0	2	17	6	7	.....	U. S. Reclamation Service.
Darrington	Snohomish	567	....	60.2	.....	85	11†	35	9	33	3.70	.....	2.00	0	7	12	9	9	.....	Charles Burns.
Davenport	Lincoln	2,450	4	55.8	.....	88	12	26	10	44	0.54	.....	0.24	0	4	23	3	4	.....	James L. Thayer.
Dayton	Columbia	1,700	27	62.0	+ 2.1	89	17	38	23	45	0.93	− 0.11	0.57	0	4	21	5	4	.....	W. W. Hendron.
Deer Park	Spokane	2,050	2	53.6	.....	86	12	21	11	56	1.05	.....	0.40	0	5	24	4	2	sw.	Robt. Allison, jr.
Detroit	Mason	30	5	59.5	.....	82	12†	37	22†	41	4.03	.....	1.40	0	9	15	10	5	s.	Walter O. Eckert.
Douglas Lake	Skagit	440	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Michael Pecovitch.
Dryden	Chelan	960	3	.....	.....	.....	.....	.....	.....	.....	0.68	.....	0.30	0	7	24	0	6	nw.	Wenatchee Valley Gas & Electric Co.
Ellensburg	Kittitas	1,571	25	55.7	− 0.8	87	7†	28	25	56	0.41	− 0.17	0.18	0	5	17	7	6	nw.	R. Lee Barnes.
Eltopia	Franklin	598	....	61.2	.....	90	8†	32	15	54	0.00	.....	0.00	0	0	.....	.....	.....	.....	Frank O Young.
Forks	Clallam	480	2	57.2	.....	80	12	37	23†	36	7.78	.....	2.41	0	11	.....	.....	.....	sw.	Ruth Palmer.

TABLE 1.—*Climatological data for September, 1913. District No. 12*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Sky.				Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.	Prevailing wind direction.	
Washington—Contd.																				
Fort Simcoe	Yakima	1,427	18	61.2	− 2.1	89	7	40	19†	46	0.09	− 0.57	0.05	0	2	21	5	4	w.	Richard Newmark.
Gerome	Stevens	1,200	1																	W. W. King.
Goat Lake	Snohomish	2,900	4								11.81		5.20	0	8					C. M. Mackintosh.
Gold Basin	do	1,360	2																	U. S. Forest Service.
Gold Creek	Yakima	2,600	4								0.65		0.50	0	2	16	12	2		John W. Anderson.
Goldendale	Klickitat	1,600	7	59.5		89	16	34	24†	46	0.92	+ 0.10	0.30	0	5	16	11	3	w.	Klickitat Co. Abstract Co.
Granite Falls	Snohomish	397	10								4.94	+ 0.92	1.30	0	10	13	9	8	w.	C. H. Cleaver.
Hanford	Benton	385		62.2		94	18	33	9	48	0.03		0.03	0	1	12	15	3	nw.	Frances Lee Bash.
Hatton	Adams	1,100	8	60.4[f]		89[f]	7†	28[f]	10	54[f]	0.33		0.17	0	4	12[f]	4[f]	8[f]	sw.	Dr. A. V. Marion.
Huntsville	Columbia	1,400	5								1.16		0.60	0	3					Mrs. S. J. Hill.
Irene Mountain	Okanogan	2,700	4																	Mrs. Theo. Wheeler.
Kennewick	Benton	368	18	64.1[e]	0.0	95[e]	17	33[b]	24	48[e]	0.02	− 0.32	0.02	0	1					R. E. Reed.
Kent	King	53		58.0		85	12	35	23	42	3.89		1.98	0	6	16	5	9	n.	A. O. Jeffries.
Kettle Falls	Stevens	1,265	4																	Harry H. Cole.
Kiona	Benton	430	7	61.1		93	17	32	24†	48	0.20		0.08	0	3	26	3	1		Dr. F. S. Hedger.
Knowlton (near)	Okanogan	3,800		59.4		87	13	35	8	41									se.	W. P. Jay.
Kosmos	Lewis	775	7	59.0		90	2†	32	24	53			1.20	0	8	17	13	0	ne.	J. A. Ulsh.
La Center	Clarke	250	16	57.5	− 0.6	84	20	31	23	45	3.60	+ 0.90	1.18	0	7	16	11	3	sw.	Joseph Bros.
La Crosse	Whitman	1,400	4	59.2		92	12	25	10†	58	1.03		0.75	0	5	21	6	3	w.	M. E. Schreck.
Lake Clealum	Kittitas	2,171	4	55.6		85	16	23	24	44	1.37		0.50	0	6	6	8	16	nw.	U. S. Reclamation Service.
Lake Kachess	do	2,235	5	54.4		82	12†	30	24†	44	1.59		0.66	0	5	17	3	10	w.	Do.
Lake Keechelus	do	2,479	5	54.0		83	12	30	24†	45	3.77		1.62	0	8	15	7	8	nw.	Do.
Lakeside	Chelan	1,116	22	62.6	+ 0.7	86	12†	42	23†	36	0.17	− 0.35	0.09	0	3	11	18	1	w.	W. H. Van Meter.
Laurel	Klickitat	1,900	4								2.23		1.03	0	5	21	7	2	w.	Mrs. Minnie E. Strout.
Laurier	Ferry	1,644	3	56.5		85	12†	29	10†	52	1.49		0.41	0	8	12	6	12	w.	Mrs. J. S. Myers.
Lone Tree	Chehalis	9	4	58.5		78	11	48	1†	26	5.38		1.56	0	13	6	22	2	nw.	U. S. Engineer Corps.
Longmires Springs	Pierce	2,800	2								4.50		1.90	0	5					National Park Ranger.
Lost Creek	Okanogan	3,125	4								1.95		0.80	0	5	17	9	4	s.	P. H. Leese.
Miltons Ranch	Ferry			52.4		81	17	28	9†	45				0						Knute Milton.
McConihe	Grant	1,072	2	60.9		91	12	34	10†	43	0.22		0.11	0	3	24	2	4	w.	Lucien F. McConihe.
McCumbers Ranch	Yakima	2,182	3								2.20		1.10	0	3	20	7	3	sw.	Mrs. Mary McCumber.
Moses Lake	Grant	1,070	2								0.20		0.10	0	3	29	1	0	sw.	H. M. Flemming.
Mottinger	Benton	307	13	65.5	− 0.5	92	17	42	23	40	0.22	− 0.27	0.12	0	3	26	4	0	w.	G. H. Mottinger.
Mount Pleasant	Clallam	500	2	54.4		77	13	40	22	29	2.81		1.04	0	9	13	10	7		Wm. M. Dorr.
Moxee	Yakima	1,000	21	59.4	− 0.6	93	17	29	24†	53	0.41	− 0.06	0.39	0	2	19	8	3		H. B. Scudder.
Newport	Pend Oreille	2,400	3	53.8		85	12	24	19†	55	2.07		0.79	0	7	18	6	6		Chas. M. Talmadge.
North Head	Pacific	211	11	57.4	+ 1.2	84	11	50	5	26	2.40	+ 0.55	0.73	0	10	18	8	4	nw.	U. S. Weather Bureau.
Northport	Stevens	1,350	14	58.0	+ 2.9	85	8†	34	18†	45	1.05	− 0.49	0.60	0	5	20	8	2		W. F. Case.
North Sundale	Klickitat		4	63.4		90	12†	38	24	42	0.14		0.09	0	2					Ruth J. Shepard.
North Yakima	Yakima	1,070	4	60.4		86	12†	34	9	41	0.36		0.36	0	1	23	2	5	nw.	Albert Bender.
Odessa	Lincoln	1,540	10	59.2		91	12	29	10†	45	0.26		0.14	0.	4	19	11	0	sw.	H. W. Rieke.
Olga	San Juan	50	23	56.0	+ 0.5	70	16†	42	19	21	1.99	− 0.15	0.64	0	9	14	9	7	nw.	Cecil S. Willis.
Olympia	Thurston	45	35	58.5	+ 1.6	82	12	34	25	47	2.83	+ 0.12	1.42	0	7	15	6	9	n.	M. O'Connor.
Omak	Okanogan	850	4	60.2		91	17	32	24†	51	0.38		0.17	0	4	21[a]	2[a]	6[a]	s.	St. John Umbrite.
Oroville	do	922	3	59.8		87	20	33	10	45	0.70		0.30	0	3	16	10	4	n.	M. C. Jackman.
Peola	Garfield	5,000	4								0.74		0.41	0	4	22	6	2	sw.	Samuel Gruell, sr.
Pomeroy	do	1,500	21	60.2	− 1.1	91	17	32	23†	48	0.47	− 0.55	0.20	0	4	16	13	1	w.	Peter McClung.
Port Crescent	Clallam	259	18	52.0	− 0.5	68	12	35	23	26	3.29	+ 0.99	1.40	0	13	10	10	10	s.	U. S. Weather Bureau.
Fort Townsend	Jefferson	80	23	58.3	+ 1.3	77	12	45	9†	29	1.12	− 0.11	0.51	0	6	13	5	12	nw.	Frank Plummer.
Prosser	Benton	661		61.5		90	13	33	24	47	0.26		0.23	0	2	22	8	0		E. L. Capps.
Pullman	Whitman	2,550	21	61.5[a]	+ 3.1	92[a]	12	36	24	42[a]	0.94	− 0.35	0.30	0	5	18	8	4	sw.	State Agricultural College.
Queets River	Jefferson	16	2	57.4		77	20	42	14	30	7.08		3.10	0	16	13	10	7	nw.	C. A. Bullard.
Quinlault	Chehalis	300	6	59.0		90	11	38	18	45	7.30		2.10	0	11	12	14	4	w.	A. V. Higley.
Reardan	Lincoln	2,510	13	57.0	+ 0.5	91	18	28	10	55	0.85	− 0.04	0.40	0	5	17	5	8	sw.	Chas Shoemaker.
Republic	Ferry	2,628	13	54.2	+ 0.1	86	12	26	10†	53	1.87	+ 0.87	0.65	0	7	17	3	10	s.	Geo. B. Stocking.
Rex Creek	Chelan	1,135	6																	James W. Nicol.
Ritzville	Adams	1,825	14								0.34	− 0.25	0.14	0	4					Agent, N. P. Ry.
Robertsville	Klickitat																			R. R. Couger.
Rock Lake	Whitman	1,910	7								0.77		0.24	0	4					H. C. Melcher.
Rosalia	do	2,425	21	57.4	+ 1.1	91	12	31	24	43	0.94	− 0.14	0.32	0	5	23	3	4	sw.	Hans Mumm.
Russells Ranch	Yakima	2,870	4																	Mrs. Adella Russell.
Seattle	King	248	22	58.8	+ 0.9	77	20	47	23	27	2.37	+ 0.44	1.05	0	9	12	6	12	n.	U. S. Weather Bureau.
Sedro Woolley	Skagit	38	16	57.2	− 0.2	77	16	38	20	35	3.81	+ 0.62	1.10	0	9	12	11	7		Mrs. H. L. Devin.
Sixprong	Klickitat	1,240	6	65.4		92	17	42	23	40	0.05		0.05	0	1	18	3	9	sw.	C. E. Comstock.
Skagit Power Dam	Whatcom	510	3	57.1		77	16†	41	2†	35	7.03		2.00	0	11	17	4	9		Skagit Power Co.
Snohomish	Snohomish	55	19	59.2[a]	+ 1.8	85[a]	25	35[a]	25	41[a]	3.18	+ 0.34	0.90	0	9	21[a]	2[a]	6[a]	w.	James Bylling.
Snoqualmie Falls	King	667	14	58.6	+ 1.2	82	16	36	23	41	5.34	+ 2.32	2.68	0	11	17	1	12		O. N. Wiswell.
Snoqualmie Pass	do	3,000	4																	R. E. Chadwick.
Snyders Ranch	Okanogan	2,200	4	53.4		85	12	25	24†	53	0.40		0.25	0	2	23	3	4	nw.	Geo. M. Snyder.
South Bend	Pacific	140	18	58.6	− 0.3	81	11	41	14	34	6.67	+ 3.38	2.10	0	11	18	7	5	e.	Mrs. W. E. Buckingham.
Spokane	Spokane	1,943	32	59.0	+ 0.2	89	12	34	24	40	0.86	− 0.15	0.37	0	6	15	9	6	e.	U. S. Weather Bureau.
State University	King	170	4	59.6		78	12	48	23	26	2.41		1.17	0	6	14	2	14	sw.	University of Washington.
Stokes Ranch	Okanogan	2,670	4								0.41			0		13	16	1	sw.	Chas. W. Gunn.
Sullivan Lake	Pend Oreille																			U. S. Forest Service.
Sumner	Pierce	77	5	57.2		85	12	31	25	49	4.27		1.93	0	10	14	8	8	n.	H. E. Thompson.
Sunnyside	Yakima	740	18	59.8	− 0.7	90	17	32	25	48	0.46	− 0.08	0.30	0	2	17	8	5	nw.	U. S. Reclamation Service.
Tacoma	Pierce	213	27	58.0	+ 0.4	79	12	40	24	39	2.97	+ 0.50	1.31	0	8	12	11	7	n.	U. S. Weather Bureau.
Tatoosh Island	Clallam	86	28	54.4	+ 1.4	67	24	46	19	18	6.37	+ 0.23	2.21	0	14	10	9	11	s.	Do.
Tieton Canyon	Yakima	2,313	4	58.2		86	17	34	23	37	0.10		0.08	0	2	22	5	3	w.	U. S. Reclamation Service.
Touchet	Walla Walla	556	6	60.8		92	17	27	24	54	0.37		0.30	0	3	22	3	5	sw.	D. W. Dorrance.
Touchet Ridge	Columbia	2,500	4								1.65		1.14	0	5	17	9	4	sw.	Mrs. Maude Bernard.
Trinidad	Douglas	900	9	64.6		90	17	40	9	36	0.11		0.11	0	1	27	2	1	s.	J. C. Wheeler.
Vancouver	Clarke	100	38	61.1	+ 0.2	87	12	35	23	41	2.41	+ 0.64	0.92	0	6	15	9	6	nw.	A. A. Quarnberg.
Vashon Island	King	40	24	56.6	− 0.5	70	16†	43	23	24	3.21	+ 1.25	1.24	0	11	17	4	9	n.	Miss. G. McClintock.
Wahluke	Grant	410	9	63.8[a]		90[b]	12	37	24	40[b]	0.10		0.10	0	1	19	5	6		F. C. Koppen.
Wallace	Okanogan	4,000	4								1.47		0.64	0	4	20	7	3	s.	G. A. Wallace.
Walla Walla	Walla Walla	1,000	29	64.8	− 0.6	91	17	43	24	35	1.29	+ 0.36	0.92	0	5	16	8	6	sw.	U. S. Weather Bureau.
Washougal	Clarke	650	13	60.6	+ 0.7	83	12	40	23	32	3.70	+ 0.98	0.90	0	7	22	1	7	w.	F. M. Grout.
Waterville	Douglas	2,624	23																	O. R. Hopewell.
Wenatchee	Chelan	639		62.2		89	17	35	25	44	0.06		0.06	0	1	21	3	6	n.	A. A. Piper.
Wenatchee, near	do	1,169	14	59.0	− 0.7	84	17	39	9	29	0.58	− 0.34	0.27	0	4	21	5	4	w.	Geo. A. Pitcher.
White Salmon	Klickitat	325	2	63.4		92	12	38	23	42	0.83		0.34	0	7	18	5	7	w.	C. W. J. Reckers.
Wilbur	Lincoln	2,203	14	55.8	− 0.4	89	17	23	9	53	0.51	− 0.17	0.21	0	4	19	5	6	sw.	R. J. Reeves.

TABLE 1.—*Climatological data for September, 1913. District No. 12*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.				Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
***Washington*—Contd.**																			
Wind River	Skamania	1,300	2	58.6	.....	87	12	33	24	49	7.36	.....	3.12	0	7	15	5	10	w.	U. S. Forest Service.
Winthrop	Okanogan	1,765	2	57.3	.....	87	17	30	24†	49	0.30	.....	0.20	0	4	23	3	4	.....	Methow Trading Co.
Yacolt	Clarke	850	....	....	.....	....	....	....	....	....	5.96	.....	2.42	0	7	18	6	6	s.	C. R. Miller.
Yale	Cowlitz	375	6	59.6	.....	87	16†	41	23	44	3.18	.....	1.06	0	8	14	7	9	sw.	J. A. Williams.
Oregon.																				
Agency Plains	Crook	2,363	....	52.8	.....	82	12	28	23	38	0.19	.....	0.19	0	1	22	2	6	nw.	W. S. Williams.
Albany	Linn	212	31	60.3	+ 0.5	90	12	37	25	45	1.73	− 0.06	0.76	0	7	18	3	9	n.	F. M. French.
Ashland	Jackson	1,963	29	62.1	+ 0.4	95	16	35	23	49	0.92	+ 0.24	0.82	0	2	21	1	8	nw.	Louis Dodge.
Astoria	Clatsop	16	52	60.0	+ 1.0	81	11	45	30	33	5.98	+ 2.29	1.75	0	11	17	6	7	nw.	Irving Club.
Austin	Grant	4,250	2	51.1[b]	.....	88[b]	7	15[b]	24	55[b]	1.30	.....	1.30	0	1	17[b]	9[b]	2[b]	w.	U. S. Forest Service.
Baker	Baker	3,466	23	56.4	− 0.5	89	7	25	24	49	0.55	− 0.21	0.35	0	2	23	4	3	nw.	U. S. Weather Bureau.
Bend	Crook	3,629	8	53.8	+ 0.8	90	12	21	24	56	0.15	− 0.58	0.10	0	2	23	4	3	s.	Bend Bulletin.
Black Butte	Lane	1,200	12	56.6	− 0.2	85	17†	33	23	41	3.85	+ 1.84	1.05	0	8	22	1	7	nw.	William Harris.
Blalock	Gilliam	237	15	66.8[a]	− 1.4	94[a]	17	43[a]	23†	38	0.16	− 0.27	0.06	0	3	24[a]	3[a]	2[a]	w.	Geo. W. Long.
Burns	Harney	4,157	22	57.8	+ 3.9	89	1	26	24†	54	0.15	− 0.66	0.15	0	1	23	4	3	.....	J. C. Welcome, jr.
Camp Creek	Crook	....	....	....	.....	....	....	....	....	....	....	.....	....	....	....	....	....	....	.....	E. W. Nelson.
Cascade Locks	Hood River	100	23	61.8	+ 1.0	85	12	40	23	31	5.09	+ 1.55	2.10	0	10	21	2	7	w.	Val W. Tomkins.
Cazadero	Clackamas	503	4	62.2	.....	88	12	30	23	47	3.63	.....	1.10	0	9	16	7	7	nw.	Alf Drill.
Central Point	Jackson	....	....	60.8	.....	97	16	30	22†	57	0.58	.....	0.43	0	2	22	6	2	nw.	A. C. Fiero.
Chiloquin	Klamath	4,200	....	52.6	.....	87	17	19	22†	55	0.26	.....	0.19	0	5	22	4	4	sw.	H. W. Hincks.
Clear Lake	Linn	3,030	....	51.6	.....	82	12†	28	24	62	3.77	.....	2.03	0	9	21	3	6	se.	R. B. Grondahl.
Cliff	Lake	4,300	6	51.0	.....	89	7	13	23	61	0.36	.....	0.36	0	1	18	9	3	n.	John C. Green.
Combs Flat	Crook	4,027	....	....	.....	....	....	....	....	....	....	.....	....	....	....	....	....	....	.....	J. R. Breese.
Condon	Gilliam	2,884	6	....	.....	....	....	....	....	....	....	.....	....	....	....	....	....	....	.....	C. F. Kennedy.
Corvallis	Benton	266	25	59.4	− 0.7	91	12	36	25	44	2.33	+ 0.95	0.85	0	7	20	3	7	nw.	Oregon Agricultural College.
Crescent	Klamath	4,400	1	51.2	.....	90	20	13	25	66	0.34	.....	0.25	0	3	19	3	8	sw.	W. W. Cryder.
Culver	Crook	....	....	57.4	.....	95	17	25	21†	53	0.19	.....	0.17	0	2	28	1	1	sw.	O. C. Young.
Dayville	Grant	2,200	19	58.2	− 1.1	91	12†	25	25	52	0.01	− 0.75	0.01	0	1	21	8	1	nw.	J. Campbell Martin.
Deadwood	Lane	350	3	60.2[a]	.....	85[a]	17	38[a]	24†	38[a]	5.77	.....	2.04	0	6	17	6	7	n.	Supt. Salmon Hatchery.
Doraville	Columbia	600	11	58.2	− 0.1	83	12†	40	10	40	3.11	+ 1.05	1.04	0	9	13	10	7	nw.	Jos. Hackenburg.
Drain	Douglas	300	11	60.7	+ 0.1	92	11	32	24	54	1.65	+ 0.06	0.71	0	5	16	9	5	nw.	Ira Wimberly.
Echo	Umatilla	625	9	62.2	.....	94	17	32	24	50	T.	.....	T.	0	0	25	1	4	w.	R. B. Stanfield.
Ella	Morrow	830	9	62.8	.....	94	14†	30	24	42	0.10	.....	0.05	0	2	28	1	1	sw.	Carl F. Troedson.
Eugene	Lane	449	23	61.8	+ 1.8	88	12	36	23	42	1.82	+ 0.20	0.88	0	6	19	1	10	nw.	Paul G. Bond.
Folly farm	Malheur	3,710	....	55.3	.....	92	7	7	25	67	0.11	.....	0.11	0	1	24	5	1	w.	W. R. Gardner.
Forest Grove	Washington	220	24	....	.....	....	....	....	....	....	....	.....	....	....	....	....	....	....	.....	Pacific University.
Glass Butte	Crook	4,200	....	55.4	.....	90	7†	19	22	65	0.10	.....	0.10	0	1	20	6	4	w.	C. J. Stauffer.
Glendale	Douglas	1,441	9	62.5	.....	101	16†	30	23†	63	1.32	.....	0.55	0	4	22[a]	2[a]	5[a]	.....	Carl Olson.
Glenora	Tillamook	575	22	57.2	+ 0.1	84	12	32	25	44	11.23	+ 6.13	4.60	0	8	15	7	8	sw.	Mrs. J. A. Reeher.
Grants Pass	Josephine	956	25	61.6	+ 0.6	96	16	30	23	55	1.02	+ 0.13	0.49	0	4	20	3	7	sw.	John B. Paddock.
Grass Valley	Sherman	2,381	12	56.2	+ 1.4	88	17	23	1	59	0.65	+ 0.24	0.23	0	3	25	1	4	ne.	Agent O.—W. R. & N. Co.
Gurdane	Umatilla	3,500	4	54.8	.....	88	6	28	23†	56	0.03	.....	0.03	0	1	19	11	0	n.	Miss Belle Ely.
Headworks	Clackamas	719	11	58.2	+ 0.1	87	12†	35	8†	52	5.33	+ 1.67	1.60	0	11	....	....	....	s.	Portland Water Works.
Harbor	Curry	130	....	60.0	.....	89	15†	41	25†	39	6.66	.....	2.56	0	6	20	5	5	nw.	Dr. C. E. Saunders.
Heppner	Morrow	1,950	23	58.7	+ 1.3	87	17	33	24	44	0.25	− 0.80	0.12	0	3	19	11	0	w.	Frank Gilliam.
Hermiston	Umatilla	451	6	62.3	.....	94	17	29	24†	49	0.22	.....	0.11	0	3	19	8	3	.....	C. W. Kellog.
Hillcrest Orchard	Jackson	1,595	....	....	.....	....	....	....	....	....	....	.....	....	....	....	....	....	....	.....	R. H. Parsons.
Hollywood Orchard	.....do	1,400	....	....	.....	....	....	....	....	....	....	.....	....	....	....	....	....	....	.....	A. C. Allen.
Hood River	Hood River	300	23	62.0	+ 2.4	91	12	37	23†	44	0.90	− 0.59	0.35	0	5	21	5	4	w.	Edward W. Birge.
Hood River, No. 2	.....do	485	1	62.2	.....	91	12†	37	25	46	0.58	.....	0.22	0	4	16	9	5	w.	C. C. Starring.
Hood River, No. 3	.....do	620	1	58.0	.....	90	16	29	25	52	0.54	.....	0.28	0	4	18	10	2	e.	U. A. Newman.
Hood River, No. 4	.....do	850	1	58.0	.....	86	16	33	24	42	1.07	.....	0.50	0	5	24	3	3	w.	P. I. Smith.
Huntington	Baker	2,165	12	64.8	+ 0.7	93	6†	29	26	46	1.01	+ 0.62	1.00	0	2	22	3	5	nw.	F. S. Bubb.
Imperial	Crook	....	....	....	.....	....	....	....	....	....	....	.....	....	....	....	....	....	....	.....	Claude Cone.
Jacksonville	Jackson	1,640	25	63.3	+ 1.1	96	16	36	23	46	0.48	− 0.43	0.36	0	3	22	4	4	n.	E. Britt.
Joseph	Wallowa	4,400	24	56.6	+ 3.2	90	7†	27	22†	54	1.01	− 0.15	0.66	0	4	17	4	9	s.	F. F. McCully.
Klamath Falls	Klamath	4,100	24	60.0	+ 1.8	87	12†	31	22	42	0.14	− 0.39	0.07	0	3	21	5	4	nw.	Augusta J. Hayden.
La Grande	Union	2,784	25	58.6	− 0.4	91	1	30	24	45	0.70	− 0.40	0.65	0	2	21	5	4	w.	W. A. Benham.
Laidlaw	Crook	3,171	....	58.4	.....	89	17	24	9†	48	T.	.....	T.	0	6	26	4	0	n.	J. W. Brown.
Lakeview	Lake	4,950	30	57.5	+ 0.4	88	17	25	22†	43	0.17	− 0.60	0.10	0	2	19	5	6	s.	C. C. Gott.
Lapine	Crook	4,230	....	50.9	.....	90	17†	15	25	66	0.29	.....	0.14	0	4	23	3	4	nw.	Albert Larson.
McKenzie Bridge	Lane	1,400	12	57.5	− 0.5	95	12	26	25	58	3.02	+ 0.64	1.27	0	11	19	0	11	nw.	George Frissell.
McMinnville	Yamhill	182	26	60.2	+ 0.9	88	12†	35	1†	41	2.23	+ 0.29	0.90	0	6	22	1	7	sw.	M. E. Pettit.
Marshfield	Coos	34	12	58.7	.....	85	11	39	9†	42	3.80	.....	1.35	0	9	19	6	5	nw.	U. S. Weather Bureau.
Meadow Brook Ranch	Hood River	850	1	59.5	.....	87	12	36	23†	41	1.24	.....	0.46	0	7	20	7	3	sw.	John W. Palmer.
Medford	Jackson	1,425	3	63.5	.....	96	16	33	23	49	0.46	.....	0.42	0	2	20	6	4	nw.	U. S. Weather Bureau.
Merrill	Klamath	4,070	8	56.8	.....	89	17	27	25	50	0.26	.....	0.13	0	2	26	1	3	.....	U. S. Reclamation Service.
Metolius	Crook	2,525	3	58.1[j]	.....	93[j]	17	21[j]	24	53[j]	0.17	.....	0.17	0	1	20[j]	....	....	sw.	John A. Hoffman.
Miramonte Farm	Clackamas	195	25	59.5	+ 0.1	85	11	38	1†	38	3.07	+ 0.91	0.85	0	6	18	5	7	n.	G. Muecke.
Mount Angel	Marion	485	27	62.3	+ 0.9	87	11	42	23	33	3.48	+ 1.47	1.25	0	6	20	5	5	sw.	Dr. Urban Fisher.
Mount Hood	Hood River	1,450	2	54.4	.....	84	12	29	23†	45	0.94	.....	0.50	0	6	22	6	2	sw.	Isaac Beal.
Musick	Douglas	5,000	4	55.0	.....	81	20	31	9	41	6.09	.....	2.42	0	8	19	1	10	sw.	Alex Lundberg.
Newport	Lincoln	69	26	56.2	+ 0.2	83	11	44	23†	33	3.98	+ 1.27	1.70	0	9	13[a]	8[a]	8[a]	nw.	William Mathews.
Odell	Hood River	1,000	1	60.0	.....	87	12	39	10	35	0.23	.....	0.23	0	1	....	....	....	.....	W. H. Chipping.
Ortley	Wasco	1,600	2	59.2	.....	86	12	39	10†	34	0.53	.....	0.22	0	5	18	8	4	w.	L. D. Firebaugh.
Paisley	Lake	4,209	10	57.6	.....	88	17	27	22†	45	0.42	.....	0.42	0	1	29	1	0	n.	C. W. Sain.
Parkdale	Hood River	1,650	3	....	.....	....	....	....	....	....	....	.....	....	....	....	....	....	....	.....	S. G. Babson.
Pendleton	Umatilla	1,070	24	61.8	+ 0.6	95	17	28	24	52	0.43	− 0.46	0.27	0	4	19	7	4	w.	E. F. Averill.
Peninsula	Crook	2,640	....	59.7	.....	90	12	32	23†	47	0.14	.....	0.06	0	3	24[a]	4[a]	1[a]	n.	M. M. Davenport.
Pilot Rock	Umatilla	1,817	5	....	.....	....	....	....	....	....	....	.....	....	....	....	....	....	....	.....	John P. McManus.
Portland	Multnomah	57	43	62.4	+ 1.8	87	12	44	30	30	2.58	+ 0.74	1.02	0	7	14	10	6	s.	U. S. Weather Bureau.
Port Orford	Curry	80	8	57.9	.....	81	16	43	2	32	5.26	.....	2.00	0	6	20	3	7	n.	John D. Loucks.
Powell Butte	Crook	3,240	....	57.2	.....	93	15	24	9†	61	0.18	.....	0.10	0	2	23	5	2	w.	Earl Saunders.
Prairie City	Grant	3,425	2	58.4	.....	94	7†	22	24	61	0.72	.....	0.67	0	3	19	6	5	w.	A. M. F. Kirchheimer.
Prineville	Crook	2,864	17	56.0[b]	− 0.7	94	12	22[b]	24	59	0.40	− 0.24	0.40	0	1	21	6	3	w.	Mrs. T. M. Baldwin.
Prospect	Jackson	2,800	7	59.3	.....	95	16	30	9†	58	1.25	.....	0.62	0	5	19	6	5	sw.	Charles A. Lower.
Ramsey	Wasco	1,350	12	56.1	.....	83	17	32	9	37	0.41	− 0.55	0.26	0	3	24	1	5	e.	Mrs. Iva B. Collins.
Range	Grant	3,500	5	55.8	.....	93	11	23	24	58	0.30	.....	0.30	0	1	21	4	5	n.	Mrs. Emma Arbuckle.
Redmond	Crook	2,990	2	52.6	.....	80	12†	25	23	40	0.29	.....	0.12	0	3	19	7	4	n.	T. G. Stevens.
Richland	Baker	2,350	12	57.4[o]	.....	90[o]	28	27[o]	26	58[o]	T.	.....	T.	0	0	13[o]	0[o]	3[o]	sw.	L. G. Morgan.
Riddle	Douglas	715	....	61.4	.....	97	11	31	24	58	0.78	.....	0.56	0	5	23	1	6	n.	P. A. Wilson.

TABLE 1.—*Climatological data for September, 1913. District No. 12*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Sky.				Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Oregon—Continued.																				
Rio Hermoso	Crook	2,110	2	55.0[i]	.....	87[i]	12	30[i]	9†	47[i]	0.63	.....	0.36	0	4	22	5	3	n.	C. T. Hubbard.
Riverside	Malheur	3,200	14	62.8	+ 3.9	99	2†	21	24†	60	0.35	− 0.12	0.20	0	2	19	9	2	w.	Mrs. Leah Fairman.
Robbville	Crook	4,000	....	51.6	.....	89	17	16	9†	60	0.33	.....	0.33	0	1	26	2	2	n.	Loren B. Robb.
Roseburg	Douglas	510	35	62.1	+ 1.6	93	11	38	23	49	1.44	+ 0.40	0.93	0	6	17	8	5	n.	U. S. Weather Bureau.
Salem	Marion	120	23	.....	.....	...	...	38	22	...	2.57	+ 0.93	0.84	0	5	18	3	9	nw.	H. A. Hoffman.
Seneca	Grant	4,800	2	49.8	.....	85	7†	8	24	68	T.	.....	T.	0	0	24	5	1	nw.	E. J. Southworth.
Silver Lake	Lake	4,700	16	56.8	+ 3.2	91	20†	20	26	57	0.07	− 0.56	0.07	0	1	26	4	0	n.	G. W. Marvin.
Siskiyou	Jackson	4,115	5	58.8	.....	81	20	35	9†	39	0.41	.....	0.20	0	4	22	3	5	n.	U. S. Weather Bureau.
Sparta	Baker	4,150	22	59.9	+ 2.5	90	2	27	24	59	0.10	− 1.00	0.10	0	1	25	5	0	w.	J. A. Wright.
Stafford	Clackamas	400	17	61.1	− 0.4	89	19	41	1	39	3.51	+ 1.19	1.31	0	7	....	....	....	ne.	John P. Gage.
Table Rock	Jackson	1,215	....	62.3	.....	99	16†	26	23	60	0.48	.....	0.36	0	5	20	7	3	nw.	Mrs. J. C. Pendleton.
Talent	....do	1,800	....	63.3	.....	95	16	32	23	52	0.57	.....	0.53	0	2	21	2	7	nw.	T. F. Smith.
The Dalles	Wasco	112	39	64.9	+ 1.6	92	17	38	25	42	0.46	− 0.10	0.15	0	4	19	1	10	w.	Judd S. Fish.
Tillamook	Tillamook	.....	....	58.6	.....	90	11	36	23	47	4.67	.....	1.60	0	10	15	8	7	nw.	Will Spalding.
Toledo	Lincoln	75	23	59.3	+ 0.8	89	1	36	22	47	3.45	+ 0.78	2.00	0	8	25	2	3	nw.	C. B. Crosno.
Umatilla	Umatilla	340	25	65.0	− 0.2	93	17	37	24	45	0.24	− 0.27	0.15	0	3	21	1	8	e.	Mrs. H. T. Duncan.
Union	Union	2,787	2	.....	.....	...	...	...	...	...	.....	.....	.....	...	...	...	...	...	.....	Robert Withycombe.
Vale	Malheur	2,242	21	62.1	+ 3.4	93	4†	22	26	54	0.11	− 0.40	0.11	0	1	26	4	0	ne.	H. P. Osborne.
Vida	Lane	1,100	2	59.9	.....	90	12	37	23	42	3.07	.....	1.13	0	8	21	1	8	w.	W. H. Pendell.
Waldo	Josephine	1,900	1	.....	.....	...	...	...	...	...	2.67	.....	1.70	0	4	...	...	...	n.	W. H. Wittrock.
Waldo Lake	Lane	5,494	....	52.8	.....	81	20	29	9	32	3.28	.....	1.05	T.	9	20	0	10	n.	Simon Klovdaht.
Wallace Orchard	Polk	170	4	59.2	.....	85	11†	35	25	43	3.26	.....	1.10	0	6	13	13	4	.....	Charles A. Park.
Wallowa	Wallowa	2,935	10	55.0[i]	− 0.1	92[i]	12	23[a]	24†	60[i]	1.28	+ 0.18	0.48	0	5	15[a]	7[a]	7[a]	nw.	L. Couch.
Wamic	Wasco	1,500	12	.....	.....	...	...	...	...	...	.....	.....	.....	...	...	...	...	...	.....	A. J. Swift.
Warmspring	Crook	1,500	11	59.4	− 0.8	94	17	28	18	49	0.29	− 0.30	0.20	0	3	13	14	3	se.	George W. Robbins.
Wasco	Sherman	1,263	....	60.0	.....	88	17	34	24	42	0.44	.....	0.20	0	4	20	6	4	w.	J. R. Howell.
Weston	Umatilla	1,800	21	64.2	+ 5.4	99	3	31	23	58	0.95	− 0.53	0.82	0	2	11	7	12	sw.	M. A. Baker.
Whitaker	Crook	4,250	....	50.8	.....	90	17†	10	24	66	0.11	.....	0.11	0	1	22	6	2	nw.	Frank Percival.
Williams	Josephine	1,368	21	60.6[c]	+ 1.2	94[c]	19	29[c]	23†	55	0.74	− 0.08	0.52	0	3	21[c]	3[c]	3[c]	n.	Francis J. Leroy.
Yonna	Klamath	4,146	6	55.8	.....	91	18	16	25	59	0.20	.....	0.12	0	2	15	15	0	nw.	Ward Rueck.

[a], [b], [c], etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.
** Temperature extremes are from observed readings of the dry bulb; means are computed from observed readings.
† Also on other dates.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 2.—*Daily precipitation for September, 1913. District No. 12, Columbia Valley.*

Stations.	Watershed.	Day of month.																											Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Montana.																																
Anaconda	Missoula			.10						.12									.13	.04	.06		*	.01								
Butte	....do		T.	T.				.08										T.	.26			.10	.10	T.						T.		0.46
Columbia Falls	Flathead	.06								.25												.02	.05									0.54
Como	Bitter Root		.02							.11																				T.		0.38
Dayton	Flathead									.20							.08					.06		.30							0.57
Deer Lodge	Missoula		.07						.07										.10													0.30
East Anaconda	....do		*	.10					.12										.07	.11		.02	.24									0.58
Fortine	Kootenai	.48		.04	.07	.10			.08	.15	.03			T.				.10	.05			.04	.03							T.		0.44
Hamilton	Bitter Root		T.	.02					T.	.08								T.		T.		.06	.05	.02						.06	.04	1.18
Hat Creek	Missoula								T.	.16				T.					.04				.04	.15						T.		0.33
Haugan	....do			T.	T.	T.			.01	.08										.60			.71	.59								2.06
Heron	Columbia	.02		.15	.05					.02									T.	.09		.13	.14							.09		0.54
Kalispell	Flathead								.27					T.					.05			.29	.19							.26		1.03
Libby	Kootenai	.33			.03	.02													T.			.04	T.							T.		0.31
Missoula	Missoula	T.							T.	.28									.26	.01		.02	.25	.01						.23		1.16
Ovando	....do			.06						.08									.01	.12		.01	.22	.10								0.74
Philipsburg	....do																		.06	.16			.10	T.								0.46
Plains	Columbia								T.	.21			T.						.04	.06			.08	.27								0.45
Pleasant Valley	Kootenai								.05	.05									.36				.09									0.66
Polson	Flathead																		.03			.10	.05							.12	.04	0.44
St. Ignatius	....do									.39																						
Saltese	Missoula			.07	.07	.02														.29			.10	.07							.08	0.93
Stevensville	Bitter Root								.03	.22									.02	.02		.03	.36							.15		0.74
Thompson Falls	Columbia		T.	T.						.04									.01					.10								0.36
Trout Creek	....do																		T.	.21	.05	.04	.06							.12		0.52
Victor	Bitter Root																		.29			.25										0.54
Wyoming.																																
Afton	Snake	.40		.50				.10	.15	.45					.20								.30	.20	.15							2.45
Alta	....do		.44	.36		.01			.35	.35				.05	.03								.10	.11							.10	1.90
Bechler River	....do		.50						.54	.16					.12								.11	.04								1.47
Bedford	....do	.05		.45				.04		.18					.25								.33	.03							.04	1.37
Moran	....do																															
Snake River	....do	.20	.40	.20		T.			.29	.15					.21								.13	.20								1.78
Nevada.																																
San Jacinto	Snake							.48						.02																		0.50
Utah.																																
Standrod	Raft		.07	.50					.22	.07				T.								T.	.17	.08						T.		1.11
Idaho.																																
Albion	Snake								.21					T.								T.	.15	.20								0.56
Almo	....do								.63																			.20				0.83
American Falls	....do		.44						.12													.72										1.28
Arrowrock	Boise		.24						.08					T.								.13	.32							.02		0.79
Blackfoot ||	Blackfoot		.10				T.	.10	1.24					T.									.06									1.50
Blackfoot Dam	....do		.25	.55					.25	.12													.20	.10							.10	1.57
Bogus Creek	Payette								.47				T.																			
Boise	Boise		T.						.22				T.	T.								.11	.29							.07		0.94
Boise King	....do		.05						.26													.29	T.							.14		0.65
Bonners Ferry	Kootenai				.40																		.22									0.53
Boulder Mine	Boise								.17				.02									.44								.30		1.14
Buhl	Snake								T.					T.								.19	.33									0.71
Caldwell	Boise								T.				T.									.05										0.05
Caldwell Ex. Station	....do																					.02	.15	T.						.23		0.40
Cambridge	Weiser																					.05								.30		0.35
Cedar Creek Dam	Snake																					.05	.22									0.27
Chesterfield	Port Neuf		.06	.32					.58					.04									.33	T.							.04	1.37
Clarks Fork	Pend Oreille	.17		.23					T.										T.			.34	.46							.36		1.56
Coeur d'Alene	Spokane			.04	.04																	.24							.18			0.50
Council	Weiser																					.13	.10									0.23
Culdesac	Clearwater					.04			.04	.02												.05	.15							.30		0.60
Deary	....do					.24			.09													.25	.25							.35		1.18
Dent	....do																															
Driggs	Snake		.70	.40			T.		.32	.17				T.								T.	T.							T.		1.59
Emmett	Payette								T.													T.	.30							.06		0.36
Forney	Salmon																															
Garnet	Snake																					.20										0.20
Geneva	Bear								.35														.28	.04	.03					.04		0.74
Glenns Ferry	Snake																					.03										0.03
Gooding	Big Wood								.04													.01								T.		0.05
Grace	Bear																															
Grand Forks	St. Joe																															
Grand View	Snake																															
Grimes Pass ||	Boise		T.					.16	.06				T.									.31	.07									0.60
Guffey	Snake								.04													.17	T.							.34		0.55
Hailey	Big Wood			.06					.18	.09				T.									T.									0.33
Hollister	Snake		.16						.09				.01	.01									.22									0.49
Hotspring	Bruneau								.12				T.									.28								.30		0.70
Idaho Falls	Snake		.03	.40					.43	.02				T.									T.									0.88
Indian Cove	Snake								.54				T.									.06						T.				0.60
Indian Valley ||	Weiser								T.														.16									0.16
Irwin	Snake																															
Kellogg ||	Coeur d'Alene	.03		.11	.03	.03				.03													.72	.01						.27		1.23
Kilgore	Lost River reg'n		.75						2.25	.50					1.30								.20									5.00
Kirkham	Payette			T.					.50													.15										0.65
Kooskia	Clearwater																															
Lakeview	Pend Oreille	.12	.15	.10	.15																											
Landore	Snake			.06	.12													.10				.55										1.17
Leadore	Salmon																					.15	.24	.05						T.		0.62
Lewiston	Clearwater			.05	T.				.03																							
Little Camas	Boise		T.					.04	.05													.14	.01						.09	.28		0.60
Loon Creek	Salmon		.06	.08					.21	.25			T.									.03	.14						T.			0.26
Mackay	Lost River reg'n		.33						.42																							
Malad	Malad			.31					.20	.10				.29	.07							.10										0.85
Meridian	Boise								T.				T.										.35	.02						.15		1.49
Mesa ||	Weiser			T.						T.				T.								.05	.20							.21		0.46
																							.26									0.26

TABLE 2.—*Daily precipitation for September, 1913. District No. 12*—Continued.

Stations.	Watershed.	Day of month.																												Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Idaho—Continued.																																
Middle Fork	Clearwater																															
Milner	Snake																					.20		.05	T.					.20		0.45
Moore	Lost River reg'n			.21					.80																							1.01
Moscow	Palouse				.15																		.34	T.						.42	T.	0.91
Mountainhome	Snake																					T.	.06							.04		0.10
Murtaugh ‖	do	.22		.50					.22	T.													.11									1.05
New Meadows	Salmon			.05	.01				T.	.04								.03				.04	.37								0.54
Nezperce	Clearwater								.34													.17	.10						.02		0.63
Oakley	Snake								.44					.21										T.					T.		0.65
O'Hara Bar	Clearwater																															‡1.50
Orofino	do					T.			.05														.45						.03		0.53
Paris	Bear																		.20				.10						.15	.05	0.50
Payette	Payette			T.					T.													.03	.02						.09		0.14
Pierson	Salmon							.68														T.		.37							1.05
Pleasant Valley	Boise																					.15	.05						.42		0.62
Pocatello	Port Neuf		.31	.03				T.	.16	T.				T.	.02							.07	.28	.01					T.		0.88
Pocatello Nursery	do								.10	.09				.11	.03						.57		.08							.04	
Poplar	Snake	.04	.03	.37					.18	.24																						0.86
Porthill	Kootenai			.20	.13					.04												.07	.55						.12			1.11
Priest River Ex. Station No. 1.	Pend Oreille	.08		.42	.28	.04				T.												.15	.73	.04	T.				.24			1.98
Priest River Ex. Station No. 2.	do	.07		.42	.22	.04				T.												.14	.72	.03	T.				.21			1.85
Priest River Ex. Station No. 3.	do	.07		.41	.24	.04				T.												.15	.83	.03	T.				.23			2.00
Pyle Creek	Payette			.08					.11													.03	.10									0.32
Richfield	Big Wood			.28					.72	.01															T.							1.01
Rogerson	Snake		.03																			.03										
Roseberry	Payette																															
Roseworth	Snake		.02						.09	.03			.10	T.								T.	.27									0.51
Rupert	do		.01						.18	T.			T.									T.	.10	T.								0.29
St. Anthony	do																															
St. Maries	St. Joe																															
St. Michael's Priory	Clearwater			T.					.39	.14									.02			.12	.29						.07			1.03
Salmon	Salmon		.09	.06					.02	.37									T.				.11	T.								0.65
Sandpoint	Pend Oreille	.25		.27	.13																	.33	.80						.33			2.11
Sheep Hill	Boise			T.					.14													.02	.19						T.			0.35
Shoshone	Big Wood		T.						.47					T.								T.		T.					T.			0.47
Silver City	Owyhee																					.07	.08						.21			0.36
Soldier Creek	Big Wood		.05	.04					.17	.18														.12								0.56
Spirit Lake	Pend Oreille																															
Springfield	Snake			.20					.44					T.									.12	.01								0.77
Spring Hill	Boise																															
Sugar ‖	Snake			.55					.19	.43													.04	.05								1.26
Sunnyside	do																															‡T.
Tripod Mountain	Payette			T.					T.														.06									0.06
Twin Falls	Snake		.94						.93	.20												T.	.02	T.	T.				T.			2.09
Vernon	do		.13	.26				.30	.26														.09									1.04
Wallace	Coeur d'Alene			.13	.03	.04			.01	.10									.01			.30	.30						.25			1.17
Weiser	Weiser			.04																		.04							.05			0.13
Wendell	Big Wood								.04													T.										0.04
Weston	Bear			.60					.51	.04				.10									.14	.05						.04		1.48
Washington.																																
Aberdeen	Coast		1.74	2.10	1.03	.30			T.	.18				.06		.02						.40						.10	.34			6.27
Anacortes	Puget Sound		.05	.13	.24				.10	.26												.12	.09						.24			1.23
Anatone	Snake			.11					.80												T.		T.							.50		1.41
Baker	Puget Sound	T.	.10	1.20	1.90	.50			.30	.90				T.					.60			.30							.40			6.20
Bellingham	do		.30	.17	.97	.10			.15	T.						T.		T.	.20			.08							.40			2.37
Bellingham, near	do	.03	.14	.40	.79	.25			.16	.02									.18			.12							.30			2.39
Blaine	do		.18	.73	.70	.18			.27	T.	.05			T.				.03	.01			.09						T.	.12			2.36
Blewett	Wenatchee																															
Bremerton	Puget Sound		.08	.72	1.28				.05																				.32			2.45
Brewster	Columbia			.19	.05																	T.							.10			0.34
Buckley	Puget Sound		.21	.67	1.58	.07			.09	.16	.03								.04			.16							.51	.25		3.77
Bumping Lake	Yakima		.43	1.27	.20				.20													.20						T.	.20			2.50
Centralia	Coast		.07	.35	1.23	.02			.08	.06				.01					T.	T.	T.	.08							.31			2.21
Clearbrook	Puget Sound	.04	1.60	.38	1.60	.65			.34									.03	.07			.19							.66			5.56
Cle Elum	Yakima			.09	.50	.11			.22	.14												.17	.27						.08			1.58
Colfax	Palouse																					.15	.10							.60		0.85
Colville	Columbia			.50	.21					T.												.26	.22									1.19
Conconully	Okanogan		T.	.21	.28	T.																T.							.14			0.63
Coulee City	Columbia																															
Cowiche	Yakima			.02																									.10			0.12
Darrington	Puget Sound			2.00	.50	.05			.50	.25												.40										3.70
Davenport	Columbia			.18	.04																	.24							.08			0.54
Dayton	do			.06																		.26	.04						.57			0.93
Deer Park	Spokane			.40	.15																	.19	.18						.13			1.05
Detroit	Puget Sound		.59	.82	1.40	.31			.09	.14						.01													.62	.05		4.03
Douglas Lake	do																															
Dryden	Wenatchee		.02	.30	.18	.01				.01												.06							.10			0.68
Ellensburg	Yakima		.03	.04	.06																		.18						.10			0.41
Eltopia	Columbia																															0.00
Forks	Coast			2.41	1.02	.33			.87	.21					.10	.04			.44			.42						.90	1.04			7.78
Fort Simcoe	Yakima		T.	.04																		.05										0.09
Gerome	Columbia																															
Goat Lake	Puget Sound			1.30	5.20	3.06	0.13											.75			.47	.55							.35			11.81
Gold Basin	do																															
Gold Creek	Yakima				.50																	.15										0.65
Goldendale	Columbia		.30	.15	.07																	.15							.25			0.92
Granite Falls	Puget Sound		.08	1.04	1.06	.03			1.30	.14				.01								.81							.40	.07		4.94
Hanford	Columbia			.03																		T.							T.			0.03
Hatton	do			.17		.01																.11							.04			0.33
Huntsville	do			.16																		.40							.60			1.16
Irene Mountain	do		T.	.37	.20					T.									T.										.50	.10		1.17
Kennewick	do		T.																												.02	0.02
Kent	Puget Sound		.28	.90	1.98					.13																			.28	.32		3.89
Kettle Falls	Columbia																															
Kiona	Yakima			.06																		.06							.08			0.20
Kosmos	Columbia		.25	.12	.94	1.20			.39	.03												.23							.51	T.		3.67

TABLE 2.—*Daily precipitation for September, 1913. District No. 12*—Continued.

Stations.	Watershed.	Day of month.																											Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Washington—Contd.																																
La Center	Columbia		1.18	.93	.13	.29																.11					T.	.56	.40			3.60
La Crosse	Palouse		T.	.15	.02				T.					T.								.09	.02						T.	.75		1.03
Lake Clealum	Yakima			.10	.50	.12	T.		T.	.32	.03										T.	.30						T.			1.37
Lake Kachess	do			.21	.66					.21	T.											.25	.26						T.			1.59
Lake Keechelus	do			.83	1.62	.06			T.	.40									.04			.30	.50						.02			3.77
Lakeside	Columbia		T.	.07	.01																	T.							.09	T.		0.17
Laurel	do			1.03	1.01	0.11																	.07						*.01			2.23
Laurier	Kettle			.14	.25	.10				.10												.03	.41						.30	.16		1.49
Lone Tree	Coast		.94	1.56	1.25	.12			.38	.16				.04		.01	.01	.06	.04			.21					T.		.60			5.38
Longmires Springs	Puget Sound			1.70	1.90					.30												.40							.20			4.50
Lost Creek	Columbia		T.	.80	.50				T.													.10							.50	.05		1.95
McConihe	do			.11																		.04							.07			0.22
McCumbers Ranch	do			1.10	.90																	.20										2.20
Moses Lake	do		.02	.08																									.10			0.20
Mottinger	do			.05																												0.20
Mount Pleasant	Coast		.06	.90	1.04	.10			.19	.08	T.								.04			.12								.05		0.22
Moxee	Yakima		T.	T.																		.16							.24	T.		2.81
Newport	Pend Oreille	.08		.32	.35					T.				T.					T.			.02							.39			0.41
North Head	Coast		.54	.62	.13				.40	.01				.05					.05			.23	.79	.02						.28		2.07
Northport	Columbia		.17	.14	T.					.08											T.	.15						.34	.11			2.40
North Sundale	do																					.60	T.						.06			1.05
North Yakima	Yakima		T.	T.	T.																	.09							.05			0.14
Odessa	Columbia		T.	.07	.03	T.				T.												T.							.36			0.36
Olga	Puget Sound		.21	.19	.64	.10			.30	.12									.17			.14							T.	.02		0.26
Olympia	do		.22	.53	1.42	.11			.05	.16												.11					T.	.15	T.			1.99
Omak	Okanogan		T.	.11	.03																	T.							.34			2.83
Oroville	do			.30																		.07							.17			0.38
Peola	Snake			.03																		.10							.30			0.70
Pomeroy	do			.10																		.12	18							.41		0.74
Port Crescent	Coast		.22	1.28	.73	.11			.38	.07	.01					.01		.01	.02			.07	10							.20		0.47
Port Townsend	Puget Sound			.06	.51	.01			.37	.02								T.				.12					T.	.15	.18			3.29
Prosser	Yakima			.03																									.15			1.12
Pullman	Palouse			.13																		.23							T.			0.26
Queets River	Coast		.01	3.10	1.02	.15	T.	T.	.07	.05	T.	T.	T.	.02	T.	.07	.05	.01	.54	T.	.01	.30	.09						.12	.30			0.94
Quiniault	do		1.50	2.10	.30	.10			.66	.53						.13			.42			.22	T.	.01		T.		.84	.91	T.	T.	7.08
Reardan	Spokane			.20	.07	.02																.13						1.13	.30			7.30
Republic	Kettle			.65	.53	.01													T.			.02	.40							.16		0.85
Rex Creek	Columbia																					.02	.02						.49	.15	T.	1.87
Ritzville	do			.14	.06	.02																						12				0.34
Robertsville	do																															
Rock Lake	Palouse			.23	.06																	.24							.24			0.77
Rosalia	do			.22	.04																	.32	.04							.32		0.94
Russells Ranch	Yakima		.05	.55	.05																	.26								.15		1.06
Seattle	Puget Sound		.75	.82	.27	.02			.08					T.		T.			.02			.26						.07	.08			2.37
Sedro Woolley	do		.04	.52	1.01	.04				.46									.41			.21	.02						1.10			3.81
Sixprong	Columbia			.05																												0.05
Skagit Power Dam	Puget Sound			1.25	2.00	.85			.25	.90	.08			.08					.45			.55	.42						.20			7.03
Snohomish	do		.30	.68	.90				.65	.15									.10			.23							.14	.03			3.18
Snoqualmie Falls	do		.33	1.32	2.68	.02			.05	.16		T.		T.					.03			.20	.02						.20	.33	T.		5.34
Snoqualmie Pass	Yakima																															
Snyders Ranch	Columbia		T.	.15	.25																		T.									0.40
South Bend	Coast		1.30	2.10	1.69				.34	.21								.05	.06	.01		.15	.01						.75			6.67
Spokane	Spokane		T.	.12	.03																	.33	.05						.32	.01		0.86
State University	Puget Sound		T.	1.05	1.17	T.	.05		.05	.07				T.					.02			T.										2.41
Stokes Ranch	Columbia			*	*	.32																							*	.09		0.41
Sullivan Lake	Pend Oreille																															
Sumner	Puget Sound		.47	.80	1.93	.07			.26	.05	.09											.04							.40	.16			4.27
Sunnyside	Yakima																					.30							.16	T.		0.46
Tacoma	Puget Sound		.94	.83	.58	T.			.10	.02									T.			T.					T.	.21	.28	.01		2.97
Tatoosh Island	Coast		1.10	1.81	.66	.07			.37	.36	.07			T.		.11	.21	.15	.01			.05					.35	1.05				6.37
Tieton Canyon	Yakima			T.	.02																	T.							.08			0.10
Touchet	Columbia			.03	T.																	.04							T.	.30			0.37
Touchet Ridge	do				T.	.03																.30	.16	.02						1.14			1.65
Trinidad	do																					T.							.11			0.11
Vancouver	do		.31	.92	.42				.10					T.								.02							.64			2.41
Vashon Island	Puget Sound		.98	.22	1.24	.03			.10	.06	.01			.01															.50	.05	.01	3.21
Wahluke	Columbia			.10	T.																								T.			0.10
Wallace	Okanogan			.64	.44																								.19			1.47
Walla Walla	Columbia		T.	.03	.03													.20											.90	.02		1.29
Washougal	do		.56	.88	.90				.38					T.								.31							.65			3.70
Waterville	do																					.18	.15									
Wenatchee	do				T.																	T.							.06			0.06
Wenatchee (near)	do		.05	.27	.10													T.				T.							.16			0.58
White Salmon	do		T.	.25	.34	.10			T.	.04												.05	.03						.02			0.93
Wilbur	do		.10	.10																		.21							.10			0.51
Wind River	do		1.04	3.12	2.29				.47													.19	.10						.15			7.36
Winthrop	do			.01	.20	T.																							.06	.03		0.30
Yacolt	do		.83	2.42	1.19				.28													.23	.08						.93			5.96
Yale	do		1.06	.02	.72	.05				.34				T.								.29	.07						.61			3.18
Zillah	Yakima																															
Oregon.																																
Agency Plains	Deschutes		T.	T.																		T.							.19			0.19
Albany	Willamette			.76	.27	.04				.01												.05						.48	.12			1.73
Ana River	SE. drainage																													.23			0.23
Ashland	Rogue		T.																										.82	.10			0.92
Astoria	Columbia		.85	1.71	1.75				.38					.04				.01	.08			.18	.17					.03	.78	T.			5.98
Austin	John Day																														1.30		1.30
Baker	Snake			T.					T.													T.	T.						.06	.49			0.55
Bear Creek	Deschutes																					.02							.06	.18			0.26
Bear Valley	SE. drainage																												T.	.08			0.08
Beech Creek	John Day			.05																		.14								.29			0.43
Bellfountain	Willamette		.53	2.10	.87				.01														.09							.37			3.97
Bend	Deschutes	.05	T.																										.10			0.15
Big Basin	John Day																															0.00
Black Butte	Willamette		.25		.65	.60	.70															.25	.10						1.05	.25			3.85
Blalock	Columbia		T.	.05	T.																	.06							.05				0.16
Blue Mt'n Sawmill	Umatilla			.20																T.	.05									1.30		1.55
Brogan	Malheur																															
Buena Vista	Snake																					T.							.80	.01		0.81

TABLE 2.—*Daily precipitation for September, 1913. District No. 12*—Continued.

Stations.	Watershed.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Oregon—Continued.																															
Burns	SE. drainage																												.15			0.15
Burns Mill	....do							.10																							.25	0.35
Butte Falls	Rogue		.10	.37	.03																	T.							.50	.09		1.09
California Gulch	Umatilla																					.08								.49		0.57
Camp Creek	Deschutes																															
Cascade Locks	Columbia		.35	2.10	1.71	.06			.17	.15												.17	.17						.18	.03		5.09
Cascadia	Willamette		.23	.73	.76				.20													.34	.02						.62	.20		3.10
Cazadero	....do		.25	1.10	1.00	.03			.15													.26	.10						.70	.04		3.63
Central Point	Rogue				.15																								.43			0.58
Chiloquin	Klamath			.03	.01	T.																.01							.19	.02		0.26
Christmas Lake	SE. drainage																															
Clear Lake	Willamette		.22	2.03	.48	.08			.04													.29	.11						.38	.14		3.77
Cliff	SE. drainage																												T.	.36		0.36
Columbia Mine	Snake			T.					T.									T.				.17								1.38		1.55
Condon	John Day																															
Coquille River L. H.	Coast		.57	.91	.49																	.11							.67			2.75
Cornucopia	Snake			.11	.03				.04										T.			.15	.07							.04		0.44
Corvallis	Willamette		.25	.32	.85	.55			.01													.08							.27			2.33
Cracker Creek	Snake			T.					.20													.10	T.						T.	1.00		1.30
Crescent	Deschutes			.25																		.02							.07			0.34
Culver	....do			.02																										.17		0.19
Dayville	John Day																					.01							T.	T.		0.01
Deadwood	Coast		1.74	2.04	1.22				.10													.16							.51			5.77
Diamond	SE. drainage			T.																		T.								.38		0.38
Doraville	Columbia		.29	.55	1.04	T.			.13	.20				T.				T.	.02			.08	.12						.68			3.11
Drain	Umpqua		.11	.43	.38																	.02							.71			1.65
Dufur	Columbia		.01	.02	.07																	.07							.36			0.53
Echo	Umatilla																					T.							T.			T.
Ella	Columbia																					.05								.05		0.10
Embody	SE. drainage			.08																		.06							.13			0.27
Eugene	Willamette	.03		.40	.37				.02													.12							.88			1.82
Fir Glen	Coast		T.	.23	.37																	.05							.30	.01		0.96
Florence	....do		.98	2.14	.74				.06													.07							.77			4.76
Folly Farm	Malheur																													.11		0.11
Forest Grove	Willamette																															
Fort Rock	SE. drainage																					T.							.03			0.03
Galice	Rogue			.60	.31																								.33	.03		1.27
Gardiner	Umpqua																															‡5.49
Gibbon	Umatilla																															
Glassbutte	Deschutes																							.10								0.10
Glencoe	Columbia		.08																			.10							.18			0.36
Glendale	Umpqua		.45	.20	.12																								.55			1.32
Glenora	Coast		1.70	4.60	4.00	.13			.22					T.					T.			.12	.05						.41			11.23
Golden Falls	....do		.20	1.35	1.78				.08													.15	.01						1.00	.13		4.70
Grants Pass	Rogue		.05	.49	.02																								.46			1.02
Grass Valley	John Day			.22																		.23							.20			0.65
Greenhorn	Snake																					.14							.07	.94		1.15
Gumboot	....do			.03					T.													.10	.11									0.24
Gurdane	Columbia				T.																	T.								.03		0.03
Happy Home	Umpqua		1.10	2.74	2.04	.14																.20							.76	.10		7.08
Harbor	Coast	T.	1.26	2.56	1.38	.44	T.		T.										T.	T.	T.	.05				T.	T.	.97	T.			6.66
Hazeldell	Willamette		.74	T.	.22				T.													.14	T.						.98	T.		2.08
Headworks	....do		.50	1.60	1.35	T.	.03	.01	.39	.02	T.			T.	T.							.35	.28						.75	.05		5.33
Heppner	Columbia			.07	T.																	.06							.12			0.25
Hermiston	Umatilla			.08																		.11								.03		0.22
Hilgard	Grand Ronde							T.															T.							.10		0.10
Hood River	Columbia		T.	.35	.30				T.	.10												.10							.05			0.90
Hood River No. 2	....do		T.	.22	.21	.02			T.	T.												.13							T.			0.58
Hood River No. 3	....do			.28	.18				T.	.04												.04							T.			0.54
Hood River No. 4	....do			.50	.28	.02			.03													.24							T.			1.07
Hoover	Willamette		.23	2.00	1.03	.11																.29	.17						.25	.07		4.15
Howardville	Grande Ronde			.18					.54													.06	.05							.50		1.33
Huntington	Snake			.01																										1.00		1.01
Ibex mine	John Day			T.					.05													.01	.04							1.00		1.19
Imperial	Deschutes																															
Ironside	Snake																													.22		0.22
Jacksonville	Rogue		T.	.08	T.																								36	.04		0.48
Joseph	Grande Ronde								.15														.10	.10						.66		1.01
Klamath Falls	....do																					.02							.07	.05		0.14
La Grande	....do																					.05	T.							.65		0.70
Laidlaw	Deschutes																					T.										T.
Lakeview	Pitt							T.														.10								.07		0.17
Lapine	Deschutes			.14																		.05							.08	.02		0.29
Lilyglen	Rogue		T.																			.02							.79	.41		1.22
Long Creek	John Day													T.								.10							.05	.15		0.30
McKenzie Bridge	Willamette		.05	1.27	.30	.15			.09	.02												.23	.14	.01					.60	.16		3.02
McMinnville	....do		.41	.90	.62				.02	.01																			.27			2.23
Marshfield	Coast		.24	1.35	1.06	.03			.09	T.												.17							.74	.11	.01	3.80
Maury	Deschutes																						T.						.19			0.19
Meadowbrook Ranch	Columbia			.46	.33	.05			.03	.14												.15	.08									1.24
Medford	Rogue		T.	.04																									.42			0.46
Merrill	Int. drainage																				.13								.13			0.26
Metolius	Deschutes																					T.							.17			0.17
Miramonte Farm	Willamette		.48	.74	.85				.10													.17							.73			3.07
Mountain Home	Columbia		.19	.41	1.97	.05			.17	.04	T.											.08	.10						.38		.02	3.41
Mount Angel	Willamette		.74	.48	1.25				.14													.10							.77			3.48
Mountain Ranch	Rogue																															
Mount Hood	Columbia			.50	.25	T.			.05	.01												.06	.07						T.			0.94
Musick	Umpqua		.62	2.42	.18	.21			.27													.38							1.30	.71		6.09
Newport	Coast		.57	1.70	.77				.10					.02								.10	.07						.30	.35		3.98
Ochoco	Deschutes			.05	T.																	T.							T.	.19		0.24
Ochoco Creek	....do																					.10			.14							0.24
Odell	Columbia				.23																											0.23
Ortley	....do		.08	.22	.08					T.												.08	T.						.07			0.53
Owyhee	Owyhee											T.									T.	.05								.35		0.40
Paisley	SE. drainage																					T.								.42		0.42
Parkdale	Columbia																															
Pendleton	Umatilla			.03																		.10							.03	.27	T.	0.43
Peninsula	Deschutes			.06																		T.							.06	.02		0.14
Persist	Rogue		.08	.94	.08																T.								.75	.10		1.93

TABLE 2.—*Daily precipitation for September, 1913. District No. 12*—Continued.

Stations.	Watershed.	Day of month. 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	Total.
Oregon—Continued.																																
Pilot Rock	Umatilla																															
Pompeii	Columbia																															
Portland	Willamette		.71	.91	.27				.13					T.								.03						.05	.48			2.58
Port Orford	Coast		1.00	2.00	.92				.06													.20							1.08	T.		5.26
Post	Deschutes																															
Powell Butte	do																					.10					.08					0.18
Power House	Columbia			.01	T.																	.03							.83			0.87
Prairie City	John Day			.02					T.													.03								.67		0.72
Prineville	Deschutes																					T.							T.	.40		0.40
Prospect	Rogue		.06	.62	.08																								.42	.07		1.25
Rager Creek	Deschutes			.04																		T.								.10		0.14
Ramsey	Columbia				.09																	.06							.26			0.41
Range	John Day																						T.							.30		0.30
Ray Creek	Columbia		T.		T.	T.			T.													T.							.12			0.12
Redmond	Deschutes																					.12							.10	.07		0.29
Reston	Umpqua		.04	.37	.25																	.07							.23	.01		0.97
Richland	Snake																					T.							T.			T.
Riddle	Umpqua			.13	.02	.04																.03							.56	T.		0.78
Riley	SE. drainage																															
Rio Hermoso	Deschutes			.36	.03																	.09							.15			0.63
Riverdale	do	.02				T.	.01	T.								.04	.02	.10	T.							.04		.01	.25			0.49
Riverside	Malheur							T.														T.								.15	.20	0.35
Robbville	Deschutes																													.33		0.33
Roseburg	Umpqua		.06	.26	.08				T.													.11							.90	.03		1.44
Salem	Willamette		.50	.62	.84				T.	T.												.04							.57			2.57
Seneca	SE. drainage																												T.	T.		T.
Silver Lake	do																													.07		0.07
Siskiyou	Rogue			.10																		.01							.10	.20		0.41
Sisters	Deschutes			.22																		.02							.04			0.28
Sparta	Snake			T.																		T.								.10		0.10
Stafford	do		.52	1.31	.91	.02			.05													.06							.64			3.51
Starkey	Grande Ronde																					.23	T.						.06	.80		1.09
Summit	Willamette		.37	1.78	1.35				.07													.07							.30	T.		3.94
Susanville	John Day										T.											.05	.04						.55			0.64
Table Rock	Rogue		.01	.07	.02																	T.							.36	.02		0.48
Talent	do		T.																										.53	.04		0.57
Tamarack	John Day			.12																		.12								.23		0.47
The Dalles	Columbia		.05	.12	T.																	.15							.14			0.46
Tillamook	Coast		1.60	1.50				.30	.02					.08				.01				.18	.07						.80	.11		4.67
Toledo	do		.58	2.00	.10									.02								.08	.07						.28	.32		3.45
Trail	Rogue		.16	.26	.03																	.01							.71	.61		1.18
Umatilla	Columbia		.07	T.																		.02							.15			0.24
Union	Grande Ronde																															
Vale	Malheur																					.11										0.11
Valley Falls	SE. drainage																														.30	0.30
Van	Malheur																															
Vida	Willamette		.51	1.13	.44	.08			.07													.37	.05						.42			3.07
Vistillas	Pitt																					.04								.16		0.20
Waldo	Rogue		.39	1.70	.21																								.37			2.67
Waldo Lake	Willamette		T.	1.05	.15	.24			.30	.10												.34	.05						.60	.45		3.28
Wallace Orchard	do		.60	1.10	.96				.09													.03					T.	T.	.48			3.26
Walloupa	Grande Ronde			.13					.43													.03	.12							.48		1.19
Wallowa	do			.04					.48										T.			.27	.08							.41		1.28
Wamic	Deschutes																															
Warmspring	do		.03																			.06							.20			0.29
Wasco	Columbia				.10	.02																.12							.20			0.44
Welches	do			1.98	.80	.11			.52													.62							.52			4.55
Weston	Walla Walla				T.	T.	T.	T.	T.													T.	.13						T.	.82		0.95
Whitaker	Deschutes																					T.								.11		0.11
Williams	Rogue			.52	.15																									.07		0.74
Yonna	Int. drainage				T.																	.12								.08		0.20

* Precipitation included in that of the next measurement.
‡ Separate dates of falls not recorded.
‖ Precipitation for the 24 hours ending on the morning when it is measured.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 3.—*Maximum and minimum temperatures at selected stations for September, 1913. District No. 12, Columbia Valley.*

Date.	Montana.				Afton, Wyo.		Idaho.																			
	Kalispell.		Missoula.				Boise.		Bonners Ferry.		Hot Spring.		Lewiston.		Mackay.		New Meadows.		Pocatello.		Salmon.		Shoshone.		Vernon.		Wallace.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1....	67	39	74	49	72	53	75	50	75	32	90	55	77	48	81	49	71	30	78	59	81	52	79	56	74	56	67	46
2....	75	34	83	34	70	46	89	54	76	33	89	53	89	48	79	46	76	29	77	56	76	39	85	52	66	43	81	35
3....	71	49	79	62	69	50	80	60	65	35	84	63	79	61	76	54	72	39	78	56	84	55	80	56	72	47	69	48
4....	80	54	89	54	78	40	86	63	65	34	91	60	90	62	79	50	80	40	83	55	89	44	86	53	76	46	78	56
5....	71	42	72	50	81	41	80	55	70	47	85	55	77	54	78	46	79	34	86	58	91	46	86	50	82	48	76	50
6....	68	36	78	38	77	41	83	49	72	34	84	53	82	46	75	46	78	30	84	53	88	46	84	51	81	47	73	36
7....	78	38	88	38	70	43	93	51	80	34	88	53	94	46	81	42	90	26	76	54	90	42	89	50	71	55	84	37
8....	78	43	80	46	70	46	81	61	76	41	87	66	86	57	83	43	79	38	78	59	78	52	78	60	65	45	76	42
9....	57	36	62	46	70	45	66	46	67	41	80	50	70	45	77	45	64	32	69	52	75	54	68	46	79	48	69	42
10....	67	30	69	30	73	33	74	40	67	30	76	39	76	41	73	37	72	18	73	40	73	32	75	37	69	32	67	31
11....	71	30	78	32	76	33	82	47	70	35	83	43	86	41	75	40	82	23	82	40	82	32	86	42	78	36	71	31
12....	74	39	86	34	79	33	92	55	82	50	92	52	94	48	79	40	88	25	85	48	85	35	89	55	81	38	82	41
13....	79	43	84	46	76	36	86	65	76	47	90	62	85	56	74	39	86	35	79	55	85	39	82	55	76	42	76	38
14....	69	48	71	48	69	46	70	48	70	37	88	52	74	49	79	41	78	32	71	54	79	51	72	41	67	34	71	35
15....	67	41	72	38	65	32	73	44	74	35	77	46	79	51	73	42	72	28	71	42	73	42	74	46	70	44	70	34
16....	71	36	77	34	67	29	78	49	78	48	80	47	85	47	74	40	82	24	73	39	79	31	77	44	73	34	71	37
17....	76	42	86	40	76	29	88	53	82	46	90	45	96	52	75	43	80	28	82	43	83	33	85	42	74	32	83	42
18....	70	44	70	58	76	34	78	51	75	40	90	56	79	59	76	41	77	26	76	61	83	48	77	45	77	38	86	42
19....	64	34	70	40	63	26	77	44	73	32	78	52	81	44	73	43	74	21	67	40	75	37	74	36	66	38	71	32
20....	69	34	79	32	69	24	86	45	76	30	86	42	90	42	75	41	81	17	78	36	83	26	81	47	70	30	84	33
21....	65	36	76	38	77	32	72	52	65	36	85	49	67	52	74	34	74	30	80	51	79	31	76	54	75	33	70	33
22....	49	40	50	42	69	31	51	40	56	40	62	39	60	48	55	34	44	31	54	35	54	35	57	38	66	32	47	26
23....	57	33	56	40	41	29	63	39	63	32	63	33	69	39	42	33	55	35	44	35	52	39	55	33	44	30	60	23
24....	58	27	59	27	45	27	60	36	67	29	65	31	71	36	40	22	62	15	52	32	58	19	55	24	52	28	68	19
25....	62	30	58	26	54	18	67	36	70	32	66	30	77	39	60	33	64	15	59	25	67	19	62	28	58	18	67	33
26....	68	32	75	30	64	21	71	37	73	33	71	32	82	41	65	30	72	16	69	32	75	23	71	35	68	25	74	35
27....	70	36	76	30	67	24	75	42	70	34	74	37	84	46	68	33	77	20	71	34	76	23	73	35	68	28	75	36
28....	73	37	80	34	70	23	81	44	66	35	82	37	80	44	70	35	78	21	77	38	79	26	78	37	72	29	74	38
29....	66	44	70	49	69	26	60	46	70	36	82	50	66	51	71	40	59	44	64	48	72	41	63	47	72	32	74	50
30....	68	41	70	46	64	30	68	42	65	34	69	42	72	43	68	42	63	33	64	44	72	39	62	40	72	34	63	43
Mn...	68.6	38.3	74.2	40.4	68.9	34.0	76.2	48.1	71.1	36.7	80.9	47.5	79.9	47.9	71.6	40.1	73.6	27.8	72.7	45.8	77.2	37.7	75.3	44.5	70.5	37.4	72.6	37.5

Date.	Weston, Idaho.		Washington.																							
			Aberdeen.		Blaine.		Colville.		Kosmos.		Lakeside.		North Head.		North Yakima.		Odessa.		Port Crescent.		Seattle.		Sixprong.		Spokane.		Tacoma.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1....	86	59	68	40	64	41	73	37	72	41	79	51	59	53	74	42	78	41	57	37	66	48	75	44	68	48	66	45
2....	77	58	62	46	60	45	80	34	90	43	76	51	54	51	76	40	80	41	54	45	58	50	83	54	79	47	58	49
3....	77	53	60	54	63	52	70	54	58	38	73	58	55	52	71	57	73	56	57	50	64	55	72	54	69	56	64	55
4....	85	46	66	56	63	53	75	56	58	51	74	57	57	52	76	64	77	60	62	48	65	57	81	54	76	60	66	56
5....	87	67	68	52	65	50	73	45	65	56	74	53	60	50	74	42	72	43	58	42	63	52	75	51	69	50	66	52
6....	91	50	73	45	65	40	75	32	71	50	76	45	58	51	74	44	76	32	63	38	65	47	77	58	74	40	64	45
7....	78	53	78	44	67	39	85	33	80	59	81	45	60	54	82	45	86	43	62	42	73	49	79	50	82	42	77	45
8....	77	58	65	46	64	43	81	40	64	44	77	47	58	52	75	42	81	46	59	47	60	51	86	49	80	48	60	50
9....	78	50	67	43	62	48	69	35	87	40	69	43	58	53	68	34	65	39	56	44	61	50	68	44	62	42	61	48
10....	79	40	77	47	69	49	73	29	88	56	76	44	63	52	72	38	71	29	59	46	69	50	76	46	68	39	70	43
11....	87	36	84	44	68	40	80	30	90	37	81	46	84	58	82	44	81	39	65	47	68	52	82	60	78	42	67	52
12....	86	42	84	47	72	43	81	36	76	38	86	50	72	54	86	53	91	55	68	50	76	50	87	54	89	52	79	48
13....	82	50	71	52	69	50	78	41	74	40	75	47	58	54	80	46	79	55	62	47	66	54	76	64	75	51	67	54
14....	78	53	70	40	64	39	69	36	72	41	74	47	57	52	72	44	72	34	58	42	61	52	77	48	70	42	63	45
15....	76	36	66	49	68	43	76	32	74	41	79	47	62	54	80	52	76	41	58	49	68	53	79	49	74	43	69	40
16....	78	37	80	60	76	55	78	37	84	42	86	53	62	55	84	50	83	43	62	49	74	56	87	52	80	45	75	56
17....	81	36	62	52	72	43	82	37	78	48	85	55	58	53	86	48	86	48	60	44	65	53	92	52	86	52	70	52
18....	85	40	69	49	65	54	74	43	71	54	80	55	58	52	81	46	80	51	57	46	67	54	81	54	74	54	68	56
19....	75	40	77	41	66	37	73	30	80	38	74	44	70	51	76	43	76	38	61	36	69	48	78	52	72	42	67	48
20....	78	30	84	47	69	40	80	29	88	58	80	54	75	54	82	43	84	39	65	49	77	52	83	49	79	39	76	46
21....	81	35	63	53	66	48	62	38	69	42	75	50	58	54	73	50	70	48	61	52	61	51	76	52	62	46	64	51
22....	65	36	67	46	62	36	59	43	63	44	74	49	57	53	66	36	63	39	57	38	61	49	70	44	57	44	60	47
23....	50	34	73	39	64	35	68	29	75	33	75	42	64	51	73	38	67	29	61	35	65	47	71	42	63	38	63	42
24....	51	31	77	40	67	37	70	30	77	32	75	42	75	58	74	35	70	31	63	43	73	49	73	62	66	34	71	40
25....	63	21	79	40	70	39	73	31	80	33	77	43	66	54	76	36	74	35	62	39	75	48	78	60	69	37	77	43
26....	70	24	57	51	73	40	75	30	74	35	78	45	57	53	78	37	80	36	60	40	72	50	80	44	74	41	72	47
27....	74	27	70	57	74	54	76	33	74	40	71	53	59	55	82	45	82	37	64	52	71	55	87	67	78	43	72	54
28....	76	29	64	53	68	50	73	36	60	54	74	52	60	55	74	48	77	51	59	46	60	53	77	54	78	48	61	53
29....	69	34	.....	41	62	42	74	52	64	44	75	47	58	54	72	50	71	47	55	40	59	51	73	53	65	50	61	48
30....	65	40	.....	42	62	36	72	33	71	39	68	45	58	51	72	41	72	31	58	37	63	48	73	54	67	42	62	42
Mns..	76.2	41.5	71.1[b]	47.2	66.6	44.0	74.2	36.7	74.2	43.7	76.6	48.7	61.7	53.2	76.4	44.4	76.4	41.9	60.1	44.0	66.5	51.1	78.4	52.3	72.8	45.2	67.2	48.9

TABLE 3.—*Maximum and minimum temperatures at selected stations for September, 1913. District No. 12*—Continued.

Date.	Washington.				Oregon.																			
	Tatoosh Island.		Walla Walla.		Ashland.		Baker.		Eugene.		Hermiston.		Marshfield.		Portland.		Port Orford.		Prineville.		Roseburg.		The Dalles.		Vale.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	57	47	76	50	76	43	71	36	74	39	90	48	68	41	69	47	67	53	78	30	76	41	77	48	85	50
2	56	48	85	52	75	47	80	44	70	42	86	38	61	40	60	48	58	43	79	34	66	44	76	49	89	41
3	58	51	78	60	75	57	71	60	72	41	84	49	65	56	66	58	55	50	70	.....	72	57	68	59	86	64
4	56	50	86	65	78	56	81	57	71	55	85	60	65	60	70	60	56	55	71	.....	76	59	76	62	93	57
5	57	50	76	59	75	46	68	50	72	50	78	58	68	51	72	54	66	50	*75	45	74	53	78	51	90	53
6	58	47	77	49	79	43	73	40	80	46	79	39	67	42	72	49	69	49	78	32	75	45	79	47	87	48
7	61	50	82	54	86	47	89	40	81	44	76	41	65	48	79	53	67	48	82	35	82	47	85	46	91	43
8	56	50	79	52	78	49	83	47	70	43	82	40	65	49	63	51	63	45	78	53	66	46	84	60	92	59
9	56	48	68	49	70	36	59	33	78	39	84	38	65	39	69	50	67	46	67	24	70	39	74	47	82	46
10	56	51	76	49	80	36	68	33	82	44	78	35	72	40	74	48	71	47	78	27	78	39	77	43	82	33
11	65	51	83	49	90	44	78	39	86	51	82	53	85	43	84	55	70	50	84	29	93	44	84	44	87	35
12	63	51	87	58	90	49	87	45	88	54	82	40	76	46	87	57	66	47	94	37	92	50	89	49	93	41
13	61	53	77	57	80	49	76	49	84	50	83	42	70	55	70	56	70	55	78	37	71	49	86	50	92	52
14	57	51	73	52	77	41	66	37	83	47	82	45	72	50	70	48	68	57	75	31	76	53	84	54	80	50
15	56	51	78	56	83	44	70	40	86	45	82	41	76	43	75	50	74	53	78	34	84	46	90	53	84	37
16	62	52	87	58	95	50	77	41	85	44	88	47	80	48	82	57	81	56	88	39	89	51	88	56	87	44
17	58	53	91	56	90	53	84	49	83	45	94	46	69	52	78	58	71	54	93	42	89	54	92	54	92	37
18	58	48	78	55	84	47	73	46	81	42	89	59	73	52	72	54	71	50	81	36	82	47	82	58	87	55
19	55	46	77	47	93	44	75	41	85	48	78	37	83	45	81	54	78	54	83	31	84	47	80	47	84	49
20	64	51	79	52	86	49	80	38	84	47	81	34	74	46	85	56	61	47	90	31	90	50	85	44	84	30
21	57	52	70	51	75	57	71	41	73	55	76	51	66	55	68	54	62	51	70	50	70	57	82	54	73	47
22	58	47	62	48	67	38	52	39	80	45	73	49	66	43	65	52	66	46	67	38	67	43	78	55	60	40
23	56	48	67	43	74	35	58	33	78	36	73	32	74	40	73	48	78	46	67	24	75	38	74	40	66	36
24	67	49	74	43	80	50	61	25	83	38	74	29	84	44	75	49	71	49	72	22	82	38	76	39	69	25
25	66	50	77	47	83	37	66	30	80	40	78	29	69	41	79	49	60	48	80	24	84	40	80	38	72	23
26	57	49	80	52	75	41	71	34	76	40	82	53	68	46	73	48	50	44	86	28	78	45	76	42	76	22
27	61	53	85	61	80	40	79	40	82	45	85	36	78	39	76	52	61	45	86	30	85	44	82	42	80	30
28	61	53	77	53	66	44	78	41	71	45	79	53	67	56	62	53	63	53	72	50	62	50	78	59	81	33
29	58	50	65	50	65	44	52	42	70	48	74	52	65	45	66	47	64	44	63	34	66	47	74	55	79	37
30	53	47	67	49	68	36	63	35	70	40	72	35	68	43	67	44	67	47	70	28	69	41	73	42	76	30
Means.	58.8	49.9	77.2	52.5	79.1	45.1	72.0	40.8	78.6	44.9	81.0	43.6	70.8	46.6	72.7	52.0	66.4	49.4	77.8	34.1[b]	77.4	46.8	80.2	49.6	82.6	41.6

*, [b], °, etc., indicate respectively 1, 2, 3, etc., days missing from the record.
§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.

WEATHER FORECASTS AND WARNINGS.

By H. C. FRANKENFIELD, Professor of Meteorology.

NORTHERN HEMISPHERE PRESSURE DISTRIBUTION.

High pressure continued over the Aleutian Islands during the first week of the month but thereafter only an occasional report was received. Over northern Alaska pressure was comparatively high during the first half of the month and low over the second, without any great fluctuations. Over southern Alaska low pressure was the rule with decided disturbances on the 4th, 9th, and 28th. Over the United States proper high pressure largely predominated and there were no lows worthy of special mention. On the 12th and 13th there were some slight indications of a disturbance west of and near the Windward Islands, but no developments resulted. High pressure also prevailed over the Atlantic Ocean, with but a single decided departure over the east-central portion on the 24th, when there was a depression that extended northward over Iceland. Over Iceland and the British Isles marked high pressure prevailed during the first decade of the month, followed over Iceland by an equally marked two-day depression that extended southward over the British Isles and continued there for several days longer. Afterwards high pressure again ruled, except from the 24th to the 26th, inclusive, when the low from the Azores passed northward. Again over western Europe moderately high pressure prevailed with a five-day interruption from the 13th to the 17th, inclusive. Over northern and central Russia pressure was also high, except on the 11th and 12th, with strong crests on the 25th and 26th, while over southern Russia fluctuations were small, with a below-normal tendency until the last four days of the month.

Over Siberia there was a succession of high and low areas of no particular consequence except on the 22d and 23d, when there was a considerable fall over the interior and on the 20th, when a well-defined coast low extended southward over Japan. Moderately high pressure prevailed over extreme northeastern China throughout the month, but southward to the Philippine Islands there were occasional depressions of fair proportions.

WEATHER IN THE UNITED STATES.

On the morning of September 1, when pressure was high over New England and low west of the Mississippi River, radiograms from vessels in approximately latitude 33° north and longitude 75° west showed falling pressure and strong north winds, indicating the presence of a disturbance a short distance to the southeastward. On August 29 there was a slight pressure fall over the Windward Islands to the southeastward and the fall probably drifted normally to the northwestward without attaining true cyclonic development until assisted by the heat and moisture of the Gulf Stream during the night of August 31-September 1. Storm warnings were ordered from Wilmington, N. C., to Norfolk, Va., and on the morning of September 2, while no radiograms from the vicinity were received, it was apparent that the storm center was approaching the North Carolina coast. Pressure remained high over New England and the northeast winds on the North Carolina and Virginia coasts were increasing. On the morning of September 3, the storm center was very near the northeastern North Carolina coast, a radiogram from a vessel near Hatteras reporting a wind velocity of 56 miles an hour from the south, while at Cape Henry, Va., at the same time it was 46 miles an hour from the northeast. The rains had extended into North Carolina and Virginia and pressure had fallen considerably to the northward, but there were no high winds north of the Virginia Capes. Northeast storm warnings were then ordered extended from Norfolk to New York. By 1 p. m. of the 3d the storm center had passed inland to Raleigh, N. C., where the barometer reading was 29.44 inches, and the wind velocities ranged from 38 to 48 miles an hour between Raleigh and Cape Henry. Directly eastward to the coast the storm was more severe and telegraph communication had ceased early in the day. By 8 p. m. of the 3d, the storm, central over interior North Carolina, had spent its force, without any high winds north of Virginia, and on the following morning it was central as a very moderate low over the mountains of North Carolina. Later it drifted westward without further change, and was lost over eastern Texas during the 6th without effect during the last three days of its existence other than general and frequently heavy showers in the south Atlantic and Gulf States. While the storm caused only a few marine disasters, it did great damage in eastern North Carolina and the loss of 5 human lives was reported. The losses were of the character usually experienced during great storms and they are said to have amounted to four or five millions of dollars.

During this time (September 1 to 6, inclusive) weather conditions changed but little over the interior of the country. The low-pressure areas kept well to the northward and there were showers from the upper Lake region westward, while abnormally hot and dry weather continued over the great corn belt and the Northwest, and at times covered the upper Lake region. In the lower Lake region and the North Atlantic States there were some light local showers with moderate temperatures, except during two or three days when warm weather prevailed over the southern portion of the Middle Atlantic States. Over the extreme West the weather was fair with variable temperatures, but within seasonable limits. A moderate low-pressure area that moved leisurely across the extreme northern portion of the country from the 1st to the 8th was attended by general showers over the northern tier of States and was followed by a pronounced cool, high-pressure area that really marked the dissolution of the hot wave over the great central valleys and the Plains States. The westward drift of the North Carolina storm left a moderate low-pressure area over Texas on the 7th and 8th, and this latter, with the cool, high area to the northward, produced the combination necessary to cause general showers over the central West and to terminate the heat wave that had persisted over those sections for so many weeks. General showers occurred on the 8th with a strong, high area central over Lake Superior, and

from that time there were frequent and substantial showers until the 17th, with moderate temperatures. A trough of low pressure drifted eastward from the 9th to the 13th, inclusive, and it was closely followed by another strong, high area that reached the north-central portion of the country just as a moderate depression from the mouth of the Rio Grande had reached the northern Texas coast. This latter disturbance moved northeastward with great deliberateness, and with steadily decreasing intensity after leaving Louisiana, and finally passed beyond the Canadian Maritime Provinces during the 18th and 19th, with a slight recovery of energy after the 17th. The rains resulting from this storm were general and practically continuous east of the Rocky Mountains for several days, and over the Gulf States the rainfall was excessively heavy. There was also a remarkably heavy fall over extreme western South Dakota during the 24 hours ending at 8 p. m. of the 16th. The disturbance at the mouth of the Rio Grande appeared during the 12th and small craft warnings were displayed on the following morning along the middle Gulf coast. Later in the day the warnings were changed to southeast storm warnings, and high winds occurred as indicated during the 13th and 14th.

The strong, high-pressure area that moved over the northern portion of the country from the 7th to the 10th, inclusive, was accompanied by much lower temperatures, and frost occurred on the morning of the 10th in interior New York and northwestern New England. Warnings for these frosts were issued on the previous day. Local frosts also occurred on the 11th and 12th over the extreme Northwest.

Another strong, high-pressure wave from the Northwest moved across the Northern States from the 9th to the 16th, inclusive, attended by general frosts from Montana eastward to the Atlantic Ocean, for which warnings were issued at the proper time. In the northern portions of eastern New York and Vermont the temperatures on the morning of the 15th were the lowest of record for the month of September, and on the following morning temperatures below freezing occurred in the cranberry marshes of New Jersey.

West of the Rocky Mountains weather and temperature conditions were such as usually prevail during the month of September until the 10th of the month, when temperature began to rise in California as a result of the low pressure over Arizona and extreme southern California and the high pressure over the extreme Northwest. These general conditions prevailed with some interruptions until the climax was reached on the 16th and 17th. On the 16th the maximum temperature of 102° at San Francisco was the highest temperature of record at that place, and on the 17th the maximum of 110° at San Diego and San Luis Obispo was also the highest temperature of record at those points. At Los Angeles on the same day the September record of 108° was equaled. After the 17th low pressure appeared over the Northwest and a reaction to normal conditions set in, except in the Great Valley, where high temperatures continued.

A depression appeared over Alberta on the 16th, which moved very slowly eastward, attended by rains, reaching the upper Lake region on the 20th with excellent definition, and the rain area then extended into the central valleys and the Southwest. The storm increased somewhat in energy over the upper Lake region and moved to the northeastward. The extreme southern portion continued to drift eastward and was last noted over the Gulf of St. Lawrence on the evening of the 23d. A slight secondary depression formed during the night of the 20th-21st over western North Carolina, the rain area from the Lake disturbance joined with the one that had persisted over the Atlantic States since the 17th, and it was not until the 23d that the last rain fell in the State of Maine. Another high area of pronounced character followed this disturbance, with clear and much colder weather, necessitating warnings on the 19th of frost and freezing temperatures for the northwestern States and, later, warnings of general frosts for the central valleys, the Lake region, the East, and portions of the South. The frosts occurred generally as forecast, except in New England, and on the morning of the 22d light frost was reported as far south as northern Alabama.

A disturbance from the north Pacific Ocean reached British Columbia on the morning of the 21st. It first caused some rains over the central and northern sections west of the Rocky Mountains and, while it moved easterly over the Canadian Northwest, it also sent an offshoot down along both slopes of the Rocky Mountains and during the 22d the rain area extended into Colorado, Utah, and Arizona, while a well-defined disturbance was central over extreme southwestern Kansas, the northern section of the depression having practically disappeared. There was at the same time a depression over Arizona and both it and the Kansas depression moved northeastward so that by the evening of the 23d there was a single narrow trough of low pressure extending from western Texas to eastern Nebraska, with a strong cool high area on each side and rains and snows with the northwestern high. The low trough drifted slowly eastward with rains and snows and low temperatures continuing to the westward, and by the evening of the 25th there was a moderate depression over Lake Michigan and another increasing one near the mouth of the Rio Grande with the western cool high area pushing down between. The rain area had in the meantime contracted to the limits of the depression and heavy rains fell at various times from the 24th to the 26th, inclusive, over Oklahoma, Texas, and western Louisiana, and by the morning of the 26th, the rain area had extended through the upper Lake region, Illinois and Indiana. At this time the Texas coast disturbance was apparently increasing in energy. Cautionary advices had already been issued on the previous evening and on the morning of the 26th storm warnings were ordered for the Texas coast. High pressure continued over the central West with clear and frosty weather while over the East pressure was falling slowly with a moderate depression over the St. Lawrence Valley, the remains of the low trough of the few days immediately preceding. The Texas coast depression did not move and it appears to have dissipated during the 28th, the rain in the west Gulf States continuing until that time. The cool, high area to the northward continued eastward with a loss of intensity on the 26th, but with a recovery on the following day, and on the 27th and 28th general frosts occurred from the Lake region and upper Ohio Valley eastward, with generally fair weather that continued until the end of the month in New York and New England.

After the passage of this high area came a weak and erratic low from the Canadian Northwest, and a general pressure fall ensued, accompanied by rains in the Pacific Northwest, and later east of the Rocky Mountains, and at the end of the month rains of a local character were still in progress east of the Mississippi River with dense fog prevailing over the upper Lake region and the Ohio Valley on account of the pressure stagnation. A high area of good proportions and with falling temperatures appeared over the north Pacific coast on the evening of the 28th and at the end of the month the high pressure and cold weather had reached Montana and Wyoming.

17172—13——10

Average temperatures and departures from the normal.

Districts.	Number of stations.	Average temperatures for the current month.	Departures for the current month.	Accumulated departures since Jan. 1.	Average departures since Jan. 1.
New England	12	59.4	−1.3	+14.1	−1.6
Middle Atlantic	15	65.6	−0.6	+20.5	+2.3
South Atlantic	10	71.8	−1.3	+15.1	+1.7
Florida Peninsula[1]	9	79.6	−0.7	+ 8.9	+1.0
East Gulf	11	74.1	−0.7	+ 6.2	+0.7
West Gulf	11	73.8	−1.9	− 4.3	−0.5
Ohio Valley and Tennessee	14	68.2	0.0	+12.3	+1.4
Lower Lakes	11	61.4	−1.8	+ 6.9	+0.8
Upper Lakes	13	59.0	−0.1	+ 3.4	+0.4
North Dakota[1]	9	57.1	+0.6	+ 0.7	+0.1
Upper Mississippi Valley	14	65.6	+0.8	+ 8.2	+0.9
Missouri Valley	12	66.5	+1.2	+ 2.1	+0.2
Northern slope	9	57.0	−0.4	− 7.7	+0.9
Middle slope	6	65.4	−2.2	+ 2.8	+0.3
Southern slope[1]	8	69.9	−2.6	− 5.4	−0.6
Southern Plateau[1]	9	71.8	−0.9	−20.9	−2.3
Middle Plateau[1]	10	58.8	+0.3	− 7.3	−0.8
Northern Plateau[1]	11	59.0	+0.3	−12.3	+1.4
North Pacific	7	57.8	+0.9	− 1.4	−0.2
Middle Pacific	7	66.4	+2.9	+ 1.8	+0.2
South Pacific	4	71.9	+4.6	+ 9.5	+1.1

[1] Regular Weather Bureau and selected cooperative stations.

Average precipitation and departures from the normal.

Districts.	Number of stations.	Average.		Departure.	
		Current month.	Per centage of normal.	Current month.	Accumulated since Jan. 1.
New England	11	3.20	100	0.00	−5.20
Middle Atlantic	15	3.12	94	−0.20	−2.90
South Atlantic	11	5.03	106	+0.30	−4.70
Florida Peninsula[1]	9	5.41	72	−2.10	−6.00
East Gulf	11	7.91	164	+3.10	+1.30
West Gulf	10	8.75	253	+5.30	−0.10
Ohio Valley and Tennessee	14	3.16	114	+0.40	+1.30
Lower Lakes	10	1.99	71	−0.80	+1.30
Upper Lakes	14	2.51	78	−0.70	−1.20
North Dakota[1]	9	1.56	100	0.00	−3.80
Upper Mississippi Valley	15	3.09	94	−0.20	−3.10
Missouri Valley	12	2.76	104	+0.10	−4.90
Northern slope	9	1.78	165	+0.70	+0.20
Middle slope	6	3.36	171	+1.40	−2.80
Southern slope[1]	8	3.88	144	+1.20	−3.30
Southern Plateau[1]	9	0.57	66	−0.30	−1.10
Middle Plateau[1]	11	1.01	111	+0.10	−0.80
Northern Plateau[1]	11	0.70	78	−0.20	−0.70
North Pacific	7	3.06	120	+0.50	−4.10
Middle Pacific	6	0.08	14	−0.50	−8.20
South Pacific	4	0.03	13	−0.20	−2.10

[1] Regular Weather Bureau and selected cooperative stations.

Average relative humidity and departure from the normal.

Districts.	Average.	Departure from the normal.	Districts.	Average.	Departure from the normal.
New England	80	− 1	Missouri Valley	64	− 2
Middle Atlantic	77	0	Northern slope	60	+ 5
South Atlantic	80	0	Middle slope	65	+ 7
Florida Peninsula	78	− 3	Southern slope	66	+ 3
East Gulf	80	+ 4	Southern Plateau	46	+ 7
West Gulf	79	+ 5	Middle Plateau	47	+ 9
Ohio Valley and Tennessee	73	+ 1	Northern Plateau	45	− 7
Lower Lakes	72	− 1	North Pacific	76	+ 4
Upper Lakes	77	0	Middle Pacific	57	−10
North Dakota	70	+ 4	South Pacific	50	−16
Upper Mississippi Valley	72	0			

Average cloudiness and departure from the normal.

Districts.	Average.	Departure from the normal.	Districts.	Average.	Departure from the normal.
New England	5.2	0.0	Missouri Valley	4.9	+0.9
Middle Atlantic	5.4	+0.8	Northern slope	4.1	+0.1
South Atlantic	5.2	+0.5	Middle slope	4.8	+1.4
Florida Peninsula	5.4	0.0	Southern slope	4.3	+0.5
East Gulf	5.9	+1.3	Southern Plateau	2.3	−0.2
West Gulf	6.0	+1.8	Middle Plateau	3.1	+0.2
Ohio Valley and Tennessee	5.7	+1.3	Northern Plateau	3.2	−0.4
Lower Lakes	5.1	+0.3	North Pacific	4.6	−0.7
Upper Lakes	5.1	−0.1	Middle Pacific	2.2	−1.2
North Dakota	4.1	−0.3	South Pacific	1.8	−0.8
Upper Mississippi Valley	5.2	+0.9			

Maximum wind velocity.

Stations.	Date.	Velocity.	Direction.	Stations.	Date.	Velocity.	Direction.
Buffalo, N. Y.	26	50	nw.	Mount Tamalpais, Cal.	28	69	nw.
Charleston, S. C.	9	62	ne.	New York, N. Y.	21	54	se.
Cheyenne, Wyo.	8	50	s.	Norfolk, Va.	3	50	e.
El Paso, Tex.	22	56	sw.	North Head, Wash.	2	68	se.
Grand Junction, Colo.	22	56	nw.	Do.	3	60	se.
Hatteras, N. C.	2	50	ne.	Pensacola, Fla.	15	52	s.
Do.	3	74	se.	Point Reyes Light, Cal.	8	62	nw.
Modena, Utah	21	52	nw.	Do.	28	59	nw.
Mount Tamalpais, Cal.	1	52	sw.	Tatoosh Island, Wash.	3	52	s.
Do.	4	56	nw.				
Do.	5	60	nw.				

RIVERS AND FLOODS, SEPTEMBER, 1913.

By H. C. FRANKENFIELD, Professor of Meteorology.

Heavy rains on the 3d and 4th and on the 18th and 19th caused sharp rises in the rivers of the Carolinas, and flood stages were attained as follows:

On the Tar River at Tarboro, 20 feet on the 9th, flood stage 19 feet; Greenville, N. C., 15 feet on the 10th, flood stage 13 feet; Neuse River, Neuse, N. C., 18.5 feet on the 4th, flood stage 12 feet; Smithfield, N. C., 19 feet on the 5th, flood stage 13 feet; Santee River at Rimini, S. C., 12.9 feet on the 22d, flood stage 12 feet; and at Ferguson, S. C., 12.6 feet on the 25th, flood stage 12 feet.

Heavy rains on the 24th and 25th in Texas, Arkansas, and Louisiana caused marked rises in the rivers, but flood stages were reached only in the Rio Grande and Guadalupe. At Rio Grande City, on the Rio Grande, the crest stage was 24 feet, on the 25th, flood stage 20 feet; and at Victoria, Tex., on the Guadalupe, 22.3 feet was reached on the 26th, flood stage 16 feet.

Hydrographs for typical points on several principal rivers are shown on Chart I. The stations selected for charting are Keokuk, St. Louis, Memphis, Vicksburg, and New Orleans, on the Mississippi; Cincinnati and Cairo, on the Ohio; Nashville, on the Cumberland; Johnsonville, on the Tennessee; Kansas City, on the Missouri; Little Rock, on the Arkansas; and Shreveport, on the Red.

Elsewhere the rivers were generally low.

Losses due to floods, September, 1913.

State.	River system.	Item 1, general loss, bridges, etc.	Item 2.		Item 3, suspension of business.
			Crops.	Live stock.	
North Carolina	Tar	$10,000	$5,000		$5,000
South Carolina	Santee			$200	50

SPECIAL PAPERS ON GENERAL METEOROLOGY.

RECENT ADDITIONS TO THE WEATHER BUREAU LIBRARY.

C. FITZHUGH TALMAN, Junior Professor in Charge of Library.

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C. FITZHUGH TALMAN, Junior Professor in Charge of Library.

The subjoined titles have been selected from the contents of the periodicals and serials recently received in the Library of the Weather Bureau. The titles selected are of papers and other communications bearing on meteorology and cognate branches of science. This is not a complete index of the meteorological contents of all the journals from which it has been compiled. It shows only the articles that appear to the compiler likely to be of particular interest in connection with the work of the Weather Bureau.

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NOTES ON THE SEVERE HEAT AND DROUGHT OVER THE MIDDLE WEST DURING THE SUMMER OF 1913.

By P. C. DAY, Climatologist and Chief of Division.

About the middle of June unusually warm weather set in over nearly all portions of the country to eastward of the Rocky Mountains, with the center of greatest temperature excess above the normal in the middle portions of the Great Plains and Mississippi Valley.

With but slight interruptions this unusually heated condition continued over the above-mentioned districts and generally in the regions adjacent thereto until near the end of the first decade of September. During this entire period of about 12 weeks of almost continuous excess of heat dry weather also prevailed in the same region with more or less severity, which, with almost continuous sunshine, frequent hot winds, and deficient humidity, combined to produce one of the most disastrous seasons in the history of the region affected.

The continuation of the heat and drought during the latter part of July and throughout August, the period when corn requires the most favorable weather conditions, proved especially disastrous to that crop, and in the central portion of the area, which included practically the whole of Kansas and portions of adjoining States, the corn crop was almost a complete failure. Farther south, over Oklahoma and portions of Texas, the continuation of the heat and drought into September caused a serious reduction in the cotton crop in those States. In addition to the great damage to the above-mentioned staples, vast injury was done to small fruits, vegetables, and stock food of all kinds, while the water supply was threatened and, in fact, many portions of the region affected suffered severely from lack of water for both stock and domestic use.

Farm work was greatly delayed by the unfavorable conditions, ground could not be plowed for the next wheat crop, and manufacturing activities were in some places suspended and in others severely handicapped by the lack of water, while the railroads were frequently compelled to transport it long distances for use at points where the supply was exhausted.

The following summary of the general weather conditions from week to week will illustrate the progress of the drought over the various sections:

For the week ended June 23 high temperatures prevailed throughout nearly the entire interior portion of the country, with excessive sunshine, and with deficient rainfall over much of the western portions of the great corn and winter-wheat regions and in the middle and southern portions of the cotton belt.

During the following week temperatures were again abnormally high, sunshine was excessive, and there was a further lack of rain over much of the southern and western portions of the corn belt and the northern portions of the cotton region. The need of rain was then beginning to be severely felt in Kansas and Oklahoma, while portions of adjoining States were likewise becoming dry.

The first week of July brought no relief from the intense heat, which had then extended to nearly all portions of the country, save the far Northwest. A few heavy local showers occurred from Texas northward, giving relief over small areas, but in much of the corn belt there was a further absence of beneficial rains and vegetation was beginning to suffer over large areas.

During the second week of July the temperature moderated somewhat over the more northern districts, and the area of high temperatures was confined to the middle Plains region, and it was generally warm over the South. Some relief from the drought occurred over the middle and lower Mississippi Valley, but to the westward, from Texas northward over Oklahoma and Kansas to central Nebraska, there was no material relief from the adverse weather and vegetation continued to deteriorate.

During the week ended July 21 there was a further contraction of the heated area, but it still continued hot over the middle and southern Plains States and thence eastward, and rainfall was greatly deficient over nearly the entire western and southern portions of the corn belt. The drought was then becoming serious in Kansas, Oklahoma, Texas, and portions of Missouri, and adjoining States were beginning to suffer as well.

The last week of July brought temporary relief from the severe heat, and beneficial showers occurred over limited areas in the regions where most needed, principally, however, in southeastern Kansas, Oklahoma, and northern Texas. Over the greater part of Kansas no material relief from drought occurred, and the lack of rain was very general also in other parts of the western corn belt and in the central portion as well, although the moderate temperatures doubtless materially lessened the effect of the continued drought.

With the beginning of August high temperatures again overspread the districts to eastward of the Rocky Mountains, and maximum temperatures of 100° or higher occurred over a large area in the Plains region and middle Mississippi Valley. The rainfall was again greatly deficient over the principal corn-growing States, the sunshine was excessive, the humidity low, and altogether the first week of the month was decidedly the worst of the season to that time in its effect on the growing corn, and practically ended all hope for that crop in the greater part of Kansas, and seriously impaired the outlook in other portions of the belt.

For the week ended August 11 high temperatures again prevailed, the average for the week ranging from 6° to 12° per day above the normal over portions of Kansas and surrounding States, with extreme temperatures ranging from 100° to 110° or more. Precipitation was again generally deficient, no beneficial rains occurring over much of the corn belt, especially the middle and southern portions, and but little falling over the western cotton belt. The adverse weather conditions had now become serious over much of the territory between the Mississippi River and Rocky Mountains. Corn prospects were rapidly diminishing in this region, and the need of more favorable weather was being greatly felt in the principal corn-growing States of the Ohio Valley as well, while the outlook for cotton in the western part of the belt was rapidly growing more discouraging.

The water supply was now growing low in the central part of the affected area, especially in portions of Kansas and Missouri, and the prospective scarcity of both water and feed for stock necessitated the shipping of large numbers of cattle and other stock to market.

During the following week the heat continued unabated over all the interior portions of the country, with the greater excess, as during many preceding weeks, over Kansas and Missouri and portions of surrounding States. No beneficial rains occurred over much of the southern and western portions of the corn belt, and there was a general deficiency over the northern and western portions of the cotton belt. Such showers as occurred proved of little permanent benefit to vegetation, especially in the western portions, where high temperatures and excessive sunshine quickly evaporated the small amounts that fell.

No material break occurred in the adverse weather during the week ending August 25, temperatures still continuing high over all central and western districts and but little rain occurring over the western portions of both the corn and cotton belts.

During the last week of August the heat greatly increased over the interior portions of the country, continuing especially high in the States of the Middle West, where the day temperatures passed above 100°, reaching extremes of 110° to 113° at points in Kansas. No appreciable precipitation occurred over nearly the entire corn belt and little or none over much of the cotton belt, especially the western portion. Pastures had become bare and the feeding of stock was as necessary as in midwinter. The scarcity of water had increased and the area affected had considerably extended over that of the preceding week. The high temperatures and lack of moisture during this week greatly advanced the maturing of corn and lowered its quality in the northern portions of the corn belt where earlier in the season more favorable conditions had prevailed and the outlook for an average crop had been favorable.

The first week in September brought no relief over the greater part of the drought-affected area; in fact, it was in some sections the most trying week of the entire season. The average temperature was above the normal over nearly the entire country and it was far above in the Middle West, where at points it was the warmest week of the summer and among the warmest weeks ever known in that region. Maximum temperatures were near or above 100° almost daily and at many points were higher than observed in any previous September. Sunshine was excessive, and the absence of any appreciable precipitation over the great corn-growing States still further increased the losses that had already been experienced, by prematurely forcing corn to maturity over the more northern districts, at the same time reducing the quality of the uncut forage, and rendering the outlook for late fall pasturage more discouraging.

Much discomfort was experienced by both human and animal life from the severe heat, which persisted both day and night, and from the growing scarcity of water which had now greatly extended, and was becoming a most serious problem.

Near the end of the first decade of September a marked change in weather conditions occurred, a cool wave overspreading the entire region, bringing a much-needed respite from probably the most prolonged period of heat ever known. Near the same time copious rains occurred over the greater part of the region where the drought had been particularly severe, thus ending, coincident with the heated term, one of the longest periods of drought ever known in the Middle West.

Frequent rains occurred during the remainder of September, and although they came too late to benefit the staple crops they replenished the water supply, put the ground in condition for plowing, which had been delayed on account of dryness of the soil, enabled the sowing of rye and other forage crops for late fall pasturage, and conditions improved so rapidly that at the end of September pastures were in better condition than at any period since early in the summer, preparations for the sowing of fall grain had made rapid headway, and all seasonable farm work was progressing favorably.

Summarizing the more important features of this heated and droughty period, it appears that the month of August as a whole was one of the warmest ever known in the Middle West, the heat exceeding in some of the States that of July, 1901, which has generally been accepted as the warmest month ever known in this country save in the desert regions of the Southwest.

In Kansas, the central State of the affected area, the records of 50 well-selected stations that reported both in July, 1901, and August, 1913, show that the average maximum temperature in July, 1901, was 100.9°, while for August, 1913, it was 101.5°, the afternoon temperatures of August, 1913, showing an increase of more than half a degree over those of July, 1901. Despite this increase in the day temperatures the nights were cooler than in July, 1901, the average minimum temperatures being, in July, 1901, 69.3°, and in August, 1913, 67.3°, a difference of 2°.

The average daily range of temperature, therefore, was 2.6° greater during August, 1913, than during July, 1901. This increased range is doubtless due to the drier and clearer weather of August, 1913, favoring more intense radiation during the night and more effective insolation during the day, as shown by the following data:

The average relative humidity determined from the three reporting stations in the State for July, 1901, was 51 per cent, while in August of the present year it was but 42 per cent. At the same time the average weight of vapor per cubic foot of space for July, 1901, was 6.11 grains, while for August, 1913, it was only 5.03 grains.

Clouds were less frequent also in August, 1913, than in July, 1901, thus tending to increase the range of temperature, the records from 45 stations reporting in both months showing 31 stations with one or more cloudy days during July, 1901, while for August of this year cloudy days were observed at but 11 stations out of the 45 reporting.

SOME OF THE EXTREME FEATURES.

The highest temperature reported during the period was 116° at Farnsworth, Kans., on July 11, and several stations reported as high as 113° in both July and August. The station reporting the highest mean maximum temperature was Clay Center, Kans., 107° for August, a record doubtless never exceeded in the United States save only at a few of the hottest points in the desert valleys of southwestern Arizona and southern California. At the above-mentioned point in Kansas the maximum temperatures were 100° or higher each day from August 1 to September 7, inclusive, save for one day, when it rose only to 92°, the average for the period of 38 days being 106.5°, while the total number of days with maximum temperature 100° or above from June 16 to September 7 was 64.

At the same point from July 1 to September 8, a period of 70 days, the precipitation was but 0.03 inch, a record likewise probably unsurpassed, for the principal crop-growing season, in the history of the State. Wells and springs dried up that had never previously failed, and streams were in many cases the lowest of record, the observer at Ottawa, Kans., reporting the river at that place as being the lowest in a period of 53 years.

DAMAGE TO CROPS.

An examination of the estimated yields of some of the more important crops, as prepared by the Bureau of Statistics, shows enormous reductions from those of the preceding year. The winter wheat crop was not materially injured, as it had largely matured before the extreme dry weather set in, save in the more western portions, where drought earlier in the season greatly reduced the yield.

The oat crop over the more southern portions also matured sufficiently early to escape serious injury, but over the more northern and eastern sections of the affected area the loss to this crop was heavy, the reduction from the crop of the preceding year amounting to probably 300,000,000 bushels in the States of the lower Missouri, middle Mississippi, and lower Ohio Valleys.

The drought occurred at the most critical period in the growth and development of the corn plant in the middle and southern portions of the great corn belt, and hence the losses to that crop were exceedingly heavy. In Kansas the crop was practically a failure, the production being estimated at about 24,000,000 bushels, compared with 174,000,000 bushels produced in 1912, a loss of about 150,000,000 bushels in that State alone. In Missouri the loss from that of the preceding year was estimated at about 121,000,000 bushels, in Iowa about 109,000,000 bushels, in Nebraska about 80,000,000 bushels, and in Oklahoma about 37,000,000 bushels. Adjoining States were not so severely affected, but the total reduction of the corn crop this year as compared with 1912 is estimated at about 750,000,000 bushels, the greater portion of which was sustained by the States of the Middle West.

Potatoes suffered severely also, the late crop proving a complete failure in many sections, while the total crop for the country is estimated to have fallen off more than 100,000,000 bushels as compared with the crop of 1912.

In the Western States of the cotton belt the condition of cotton in Texas fell from an average of 81 on July 25 to 63 by September 25; Oklahoma in the same time fell from 81 to 42, Missouri from 80 to 64, and Arkansas from 87 to 63.

All vegetables and fruits suffered severely, and gardens were largely total failures. Hay and pasturage were greatly reduced, and the feeding of stock became necessary in many sections early in August, and by September 1 it was general over much of the region. On account of the scarcity of feed of all kinds, the shortage of the water supply, and the impossibility of carrying stock through the coming winter except at heavy cost, much of it was forced upon the market in unfit condition and under circumstances that entailed great loss to the owners and at the same time greatly reduced the opportunities for promptly restocking.

EFFECT ON HEALTH CONDITIONS.

Despite the long-continued periods of excessive heat and lack of appreciable rainfall, the general health of the communities was sustained in a remarkable manner. Few deaths occurred that were directly attributable to the adverse weather, and the number of sunstrokes was scarcely greater than usual.

Extracts from reports of Weather Bureau officials at points in the districts affected, together with charts showing some of the more important phases of the unusual weather conditions, are appended.

THE DROUGHT OF 1913 IN KANSAS.

By S. D. FLORA, Observer, Topeka, Kans.

The drought of the summer of 1913 was one of the most damaging that Kansas has experienced since authentic weather records were begun in the State. The three summer months—June, July, and August—were drier than the summer months of any other year since State-wide weather records were begun in 1887, and came within a fraction of a degree of averaging warmer than the same months of 1901, which is the warmest summer on record in the State. At some places in the south-central part of the State the average for these months was higher than for the corresponding months of 1901. If, however, the comparison be continued to September 10, the date when the heat wave was broken, the average temperature for the whole period June 1 to September 10, 1913, was the highest of record for the State.

Prior to 1887 reliable records of precipitation were kept at comparatively few places in the State, but a study of those available indicates that even the famous drought years of 1860 and 1864 were favored with a greater summer rainfall than 1913, and that, with the possible exception of the summer of 1874, the summer of 1913 stands alone as the driest the State has experienced since the early fifties, when there were only a few settlements in the State.

The following table gives a comparison of the mean temperatures and total precipitation over Kansas during June, July, and August, 1913, with those of the corresponding months of 1901 and 1911, the two previous driest and warmest summers since a complete record of weather over the State was begun in 1887:

Year.	Mean temperature.	Total precipitation.
1901	80.5	6.85
1911	78.5	8.38
1913	80.2	4.24

Normal temperature for the State as a whole for June, July, and August, 76.2°; normal precipitation for the same period, 11.32 inches.

Though the year 1913 is the fourth successive one of deficient precipitation in Kansas, weather conditions the first five months were favorable in all parts of the State except the south central and south western portions and a few counties in the extreme west central part, where there was considerable need of more moisture. Between the middle of June and the 10th of September there were no rains of consequence anywhere in the State except in some southeastern counties and a few scattered stations in the lower Kansas River Valley and in the northwestern portion. For the entire three months, June, July, and August, the average precipitation over the eastern division of the State was 4.42 inches, a deficiency of 8.67 inches; for the middle division, 3.81 inches, a deficiency of 7.06 inches; and for the western division of the State, 4.51 inches, a deficiency of 4.64 inches.

There was no part of the State where the drought was not felt greatly, but it was most severe in the central portion, and the ill effects of it were least felt in the east central portion, the lower Kansas River Valley, and some northwestern counties.

In the most severe droughts of recent years, 1901 and 1911, soaking rains fell the latter part of July and the first of August, but this year the rains were delayed until September 10—too late to benefit even late corn or vegetables and almost too late to start fall pastures or produce another cutting of alfalfa except in a few favored localities.

EFFECT ON THE CORN CROP.

The damage to the corn crop was considerably greater than the damage by the drought of any previous year.

The present prospect is for about 10 per cent of a full crop, which would indicate about 15,000,000 bushels. In 1911 the State harvested, in round numbers, 60,000,000 bushels; in 1901, 43,000,000 bushels; and even in 1874, when the crop was the least of any year since 1868, there were 16,000,000 bushels, as shown by the reports of the Kansas State Board of Agriculture. In about half the counties of the State the crop is reported a complete failure. Practically the only fields that will produce enough corn to be worth husking are those in the lowlands. An unusual amount of corn was cut and stored in silos, which will help materially toward relieving the shortage of stock feed this winter.

THE HAY CROP.

The damage to wild or prairie hay varies from about 50 per cent in the eastern counties to a total failure in the southwestern, though a few favored counties report the usual crop. Alfalfa seems to have stood the drought better, and in the eastern half of the State from two to three cuttings were generally obtained. The usual number in that part varies from four to five cuttings. In the western half there were one or two cuttings, the first being generally extra heavy and of good quality, and a fine seed crop later in the summer has compensated in a large measure for the deficiency in hay.

DAMAGE TO VEGETABLES.

The vegetable crop, with the exception of early potatoes and a few other early vegetables, was practically a failure except in the few places where it was irrigated. Early potatoes made about half a crop.

THE WHEAT CROP.

Over the eastern half of the State the drought began too late to damage wheat. In the western, and especially the southwestern portion, wheat was badly damaged. In some counties there was less than 50 per cent of a crop, and a few counties along the Colorado line raised no wheat at all.

PROSPECT FOR STOCK FEED NEXT WINTER.

In nearly every county of the State it is reported that stock feed was never before so scarce at this time of the year. In the northwestern part of the State, however, feed is more plentiful than in either 1901 or 1911. There has been an unprecedented movement of cattle to the eastern markets, which will result in a marked scarcity of beef cattle for the next year or two. About three-fourths of the counties report that, with the number of cattle already shipped out and the increased use of corn for ensilage, they will have enough feed to carry their stock through the winter, though in many instances it will be necessary to use forage that is not desirable.

EFFECT ON WATER SUPPLY.

It is generally reported that the drought caused stock water to be scarcer than it ever was before, except in the western counties and those along the Arkansas River east to Sedwick County, where there is an inexhaustible supply of underground water—the "underflow," as it is commonly called. Creeks and small lakes are dried up that were never before known to be dry. Only a few reports state that the water supply was lower in 1860 or 1901. In some of the larger cities, notable among which is Topeka, ample provision had been made for a supply of water that was sufficient for all purposes, but individual farmers and smaller towns in the eastern half of the State experienced much difficulty in obtaining sufficient water. In several instances it was necessary to ship the water supply for whole towns in tank cars, and to make this possible the State utilities commission put into effect emergency rates on water. The Rock Island Railroad was compelled to haul 18 tank cars—180,000 gallons—of water daily from the Kansas River at Topeka to supply its shops at Horton, a distance of 45 miles. It also found it necessary to haul water in tank cars for steam purposes at Pawnee, Sabetha, Prairie View, Herington, and Caldwell, though these hauls were shorter than the one from Topeka to Horton.

EFFECT OF THE DROUGHT ON PEOPLE GENERALLY.

The health of the people in the State was so much better than would have been expected from such extreme weather conditions as to cause considerable comment. Only 17 deaths from the direct effects of the heat were reported to the State board of health during June and July, as against eight in the corresponding months last year; and the report for August, while not yet complete, will not show much more of an excess over the corresponding number for August last year. The prolonged period of hot days and uncomfortably warm nights was debilitating, but not in the degree that might have been expected from the temperatures that occurred. There was considerably more than the usual summer travel to cooler climates, and the railroads report the heaviest summer passenger business they ever had. The work that was to be performed during the summer went on with almost the usual energy, though there was a general feeling of depression, due mostly to the knowledge that the continued drought was ruining the crops, upon which the prosperity of the State depends almost entirely.

THE DROUGHT OF 1913 AT CONCORDIA, KANS.

By J. W. BYRAM, Observer.

The summer of 1913 was remarkable on account of the intense thermal conditions and extraordinary drought which overspread this section. This drought was a continuation of the general deficiency in precipitation which began in January, 1910.

Thunderstorms on June 4, 5, and 6, 1913, were attended by 2.01 inches of rain. From June 7 to 30, inclusive, no rain, other than local showers on the 19th, 21st, and 30th, occurred.

On May 31 the precipitation for the year 1913 to that date was 0.35 of an inch in excess of the normal, and the rain of June 4, 5, and 6—2.01 inches—increased the departure to +1.40 inches. The rains of June 19, 21, and 30 amounted to 0.75 of an inch, a deficiency of 3.26 inches during the 24-day period June 7 to 30, inclusive. So, for purposes of this report, the drought of 1913 will be considered as having its inception June 7 and ending September 8, when rains and cooler weather materially changed the outlook and modified to some extent the effects of the most disastrous period of heat and drought in the history of north-central Kansas.

JUNE, 1913.

The month, while dry, was fairly pleasant. The mean temperature, 75.2°, was 2.5° above normal. The highest temperature, 99°, occurred on the 26th, and readings of 90° or more obtained on 12 days. Hot but not destructive winds occurred on the 20th and 27th. The rainfall, 2.76 inches, was 2.21 inches less than the normal; and as 2.01 inches fell on the 4th, 5th, and 6th, the greater portion of the month was decidedly droughty. Showers and cool, droughty weather marked the close of the month.

JULY, 1913.

The month was hot and dry, the total precipitation, 0.15 of an inch, being 3.47 inches less than the normal. This is the least amount of rainfall ever recorded at this station during any July, the previous driest July being that of 1890, with a rainfall of 0.23 of an inch. The mean temperature for the month, 83.2°, was 5.1° above the normal, and temperatures above the normal were recorded from the 1st to the 9th, 13th to 18th, and 26th to 30th. The maximum temperature was 90°, or above, on 26 days; 95°, or above, on 18 days; 100°, or above, on 13 days; 105°, or above, on 6 days; and 110° on 1 day.

From the 13th to the 17th, the maximum temperature readings ranged from 101° to 110°, and the average maximum for the 5-day period was 107°. The culmination of the heated period occurred during the afternoon of the 14th, when the temperature attained a maximum of 110°.

The monthly mean relative humidity, 47 per cent, was 19 per cent less than the July normal, and the 7 p. m. mean, 29 per cent, was 24 per cent less than the average. The lowest recorded during the month was 13 per cent, at 7 p. m. of the 16th, and percentages of 20 per cent, or less, occurred on the 7th, 15th, 16th, 17th, and 22d.

AUGUST, 1913.

The rainfall during the month was 0.30 of an inch, a deficiency of 2.51 inches compared with the normal. This is likewise the least rainfall ever recorded at this station during any August. The previous dry August was that of 1909, when the rainfall amounted to 0.37 of an inch.

The mean temperature for the month was 85°, an excess of 8.5° compared with the normal. Temperatures slightly below the normal were recorded on the 1st, 2d, and 22d. The maximum temperature was 90°, or above, on 29 days; 95°, or above, on 27 days; 100°, or above, on 21 days; and 105°, or above, on 6 days. The mean of the daily maximum temperatures was 101°, the highest ever obtained at this station, being 1° higher than the mean maximum for July, 1901.

A temperature of 107° was attained on the 5th, 8th, and 27th; this is the highest ever recorded at this station during any August. The mean relative humidity for the month, 42 per cent, was 25 per cent below the 25-year average, and the afternoon mean, 25 per cent, was 30 per cent below the normal.

SEPTEMBER, 1913.

Hot, dry weather continued during the first 7 days of the month. The maximum temperature was 99° on the 1st, 2d, and 3d; 100° on the 4th, 102° on the 5th, 103° on the 6th, and 100° on the 7th. Light rains and lower temperatures occurred on the 8th, 9th, and 10th, and the drought of 1913 passed into history.

Many wells in this city and county failed during the drought, but the main wells of the city water system contained an ample supply for all purposes during the entire summer.

The bed of the Republican River has been dry and dusty since the first decade in August.

It is not believed that any loss of life can be attributed to the heat of the summer, but there were many cases of illness due to the debilitating effect of the long periods of terrific heat.

All farm work was necessarily suspended during the periods of extreme heat, but the care taken of the stock was such that no loss occurred. Fruit and garden truck were complete failures, the hay crop cut about 50 per cent, and potatoes were damaged 85 per cent. The corn crop was practically destroyed. The most conservative estimates place the loss at 96 to 98 per cent. In 1894 the corn was damaged 75 per cent, and in 1895 the loss was 65 per cent.

NOTES ON THE DROUGHTS AND HOT WEATHER DURING THE SPRING AND SUMMER OF 1913 IN THE VICINITY OF DODGE CITY, KANS.

By H. McP. BALDWIN, Observer.

There have been two droughts in this vicinity since March 1, 1913, the first drought beginning the latter part of April and continuing throughout May. The second began June 14 and continued until September 8, when a heavy rain began falling over Ford County.

During the first drought winter wheat, the principal crop of this section, was seriously injured. This crop, which had withstood the rather dry weather that had prevailed during a greater portion of the preceding fall and winter and which promised an average yield, if not better, when the drought set in, was one of the poorest that has been harvested, three-fourths of it having been destroyed by the dry weather and hot winds. The money value of the injured wheat in this county is generally considered to be about one and a half million dollars. The total precipitation during the first drought was 0.81 inch, or only 22 per cent of the normal. During the same period there was an excess of 141° in the temperature, with extremely hot weather during the last four days of May, the daily excess ranging from 9° to 14°.

Winds of 30 miles or higher were experienced on April 29 and 30, May 1, 2, 13, 17, and 19, and were accompanied by generally abnormally high temperatures.

During the second drought, which continued 86 days, the total precipitation was 1.68 inches, or 19 per cent of the normal. The greatest 24-hour rainfall during July was only 0.26 inch, which was not sufficient to be of any material benefit, and there was no rain in August sufficiently heavy to relieve to any appreciable extent the protracted drought. The average mean temperature for June, July, and August was 78.5°, only 0.7° lower than the average for the same months in 1901, the hottest summer in the history of the station. There never was a hotter month in this vicinity than August of the present year, the mean temperature for the month, 82.4°, equaling the highest mean temperature of July, which occurred in 1890 and 1901. From June 14 to September 8, inclusive, there were 66 days with a temperature of 90° or higher and 17 days with a temperature of 100° or higher. Compared with other dry seasons, there were more days

with temperatures of 90° or higher and 100° or higher than in any previous year.

In 1910 the precipitation was the least ever recorded at Dodge City, equaling the dry year of 1893, when the total was 10.12 inches. Notwithstanding the great deficiency in precipitation, Ford County in 1910 had the largest and best paying wheat crop in its history and was among the first five counties in Kansas in wheat production. The unusually large wheat crop for that year can be attributed to the unprecedented precipitation and abnormally high temperature of November, 1909, and the severely cold December following. Up to the time of the remarkably heavy rain, sleet, and snow storm of the latter part of November, it had been unusually warm, and the ground was not frozen when the heavy precipitation occurred, which in four days amounted to 4.19 inches. Owing to the condition of the soil, nearly all of this precipitation was stored up, very little of it having been lost by evaporation. Immediately following this heavy precipitation unusually cold weather set in, December of that year being the second coldest of any December since the establishment of this station.

Prior to 1900 this section was not engaged in agricultural pursuits to any great extent. The acreage under cultivation in 1901 was not over a fourth of the acreage in winter wheat in 1913 and consequently the loss could not have been nearly as great.

While nearly all of the streams are dry at this writing, September 11, yet the supply of water from the underflow is abundant for present and future needs of man and beast. The city waterworks is pumping about 15,000 gallons of water per minute, which is, and has been, ample for all purposes. The wells will supply sufficient water for the stock during the coming winter.

The general health in this community has been good; there have been no epidemics, and sickness has probably been less than in previous years.

In addition to the damage done by the drought considerable damage was done by grasshoppers during July and the early part of August, and on the whole the droughts of 1913 have generally been considered by the oldest residents of this vicinity to have been the worst ever experienced.

NOTES ON THE HEAT AND DROUGHT OF THE SUMMER OF 1913 AT IOLA, KANS.

By H. K. HOLCOMB, Observer.

The drought and heat wave of the present year continued from July 25 to September 8, inclusive, in this vicinity. During this period the light showers which occurred were of no material benefit and the few days when the temperature fell below normal gave only temporary relief.

The mean temperature for the period of 46 days drought was 84, being an average daily excess as compared with the normal of 8°, and the accumulated excess in temperature for the period amounted to 368°. On 30 days of the period the mean temperature was above normal, and on 23 days the temperature attained a maximum of 100° or above, reaching an obsolute maximum of 105° on August 6. The total precipitation for the period was 0.35 inch, and the accumulated deficiency amounted to 4.86 inches. On 35 days of the period southerly winds prevailed.

Preceding the drought this year there was an accumulated deficiency in precipitation of 3.14 inches, which accounted for the comparatively small supply of underground water.

The drought destroyed pastures for the remainder of the season, reduced the corn in this vicinity to one-fourth of a crop, the hay to half of a crop, and the late vegetables to one-fourth of a crop. Wheat was not damaged, as that crop was matured before the drought became effective, and early vegetable crops were uninjured. The drought diminished the stock water until the supply on uplands was exhausted and many persons were compelled to haul water several miles for household and stock purposes. The volume of water stored by dams in the Neosho River would last for several months longer should no rain fall during that time. Dryness caused many cracks extending down 3 or 4 feet in the soil. Along the railroads the cracks in the ground caused sink holes and necessitated frequent repairing of the ballast. The dryness of the soil prevented plowing, and deferred the sowing of alfalfa and wheat, and the excessive heat interfered to some extent with construction work. In several localities shallow rooted shade trees died from absence of moisture in the soil. At the Iola Portland cement plant, having a capacity for producing 5,000 barrels of cement daily, the water supply stored at the regular intake became exhausted, which necessitated laying a pipe line to the Neosho River. The excessive heat also interfered with the working of the engines, causing shutdowns and repairs, and an extra force of laborers had to be employed in the mill and kiln rooms.

NOTES ON THE DROUGHT AND HEAT DURING THE SUMMER OF 1913 AT WICHITA, KANS.

By H. P. HARDIN, Observer.

Judged by the climatological data available here and the reminiscence of the oldest settlers, the 1913 drought was beyond question the most severe and caused a greater crop loss than any other drought of which we have a record or tradition.

Of the years covered by the records of this office, 1888–1913, those showing droughty conditions are:

In 1890, from June 20 to August 22, there was but 2.17 inches of rainfall, 0.01 inch or more occurring on 10 days. The mean maximum temperature was 93°, the highest 102°, and 100° or more occurred on 7 days.

In 1893, from August 1 to September 18, the total precipitation was 1.51 inches. This amount fell in showers on 8 days in August. The highest temperature was 104°, and 100° or more occurred on 2 days. This is referred to by those who went through it as a very disastrous drought.

In 1897 a drought began with May 14 and continued until August 2. In that period showers on 3 days totaled 0.64 inch in May; on 11 days, 1.99 inches in June; and on 9 days, 1.49 inches in July. June 16 a heated period began, and on August 3, when the drought was broken, there had been 48 days of insufficient precipitation, having maximum temperatures averaging 95°, and reaching 100° to 102° on 10 days. This is referred to as a crop-failure year, but the census report shows that considerable agricultural products were marketed.

In 1901 there was practically no rain, only 0.22 inch from June 20 to July 17. The daily maximum temperatures averaged 98°; 100° or more occurred on 11 days, and during the last 11 days of the drought the maximum temperatures ranged from 99° to 103°, the latter occur-

ring on two successive days. Good rains during the remainder of the season prevented a crop failure. This year approaches the nearest to 1913 in point of temperature records. The heat wave coming as it did at the most critical period in the life of the corn plant, that crop was seriously injured, and forage, truck, and fruits are said to have been cut 50 per cent by the withering hot winds. Live stock was not materially affected.

The drought of 1910 is the nearest parallel in point of duration to that of 1913. It began with the new year and continued through July, relieved somewhat by heavy rains in the first half of May and showers in the first decades of June and July. The total precipitation was 3.72 inches, distributed in showers on 20 days. Temperatures were normal until July 23. On that date 104° was recorded and on the 5 succeeding days 103° to 105°, the latter occurring on two dates. Crops were seriously damaged, and in many individual instances single staples were a total failure; and as a whole, the agricultural output was not profitable to the farmers.

Nineteen hundred and eleven also began with droughty conditions existing. Heavy snowfalls in February and near the normal rainfalls in April and May relieved the crop situation materially. The total absence of precipitation in the months of March and June aided by high temperatures in the last decade of June cut all crop yields. On June 25 107° occurred, establishing a new high temperature record for the station which has not since been broken.

The 1913 drought began with a 47 per cent precipitation deficit in January, followed by deficiencies of 87 per cent in March, 32 per cent in April, 80 per cent in May, 71 per cent in June, 65 per cent in July, 100 per cent through August to September 5, when the drought was broken. The effect of the shortage of precipitation is increased or diminished by the excess or deficiency of temperature, clear skies, and dry-air movements, and all of these elements were progressively above normal through the spring and summer months. July and August were the most trying months. In July the monthly mean maximum temperature was 93°, the highest 102°; 90° or above on 22 days, and 100° or more on six days. There were 20 clear days, 10 partly cloudy and 1 cloudy day. The daily hours of sunshine ranged from 52 per cent on 1 day to 100 per cent on 11 days and averaged 87 per cent of the possible hours. Winds prevailed from the south with a total movement of 9,975 miles which is 3,000 miles above the July average and 337 miles more than was ever recorded in July previously.

August passed without relieving the droughty condition. Instead, the month was the driest and hottest of any August of which we have a record. No measurable precipitation occurred, and excessive heat, sunshine, drying winds, and a marked absence of atmospheric humidity accentuated the need of rain. No other August has been without rainfall, and our records indicate that no other month in the history of the station has had such prolonged high temperature and number of days with low humidity and clear skies. The daily maximum temperatures averaged 98°, the highest was 104°; 90° and over occurred on 30 days, and 100° and above on 12 days. There were 27 clear days and 4 partly cloudy. The daily hours of sunshine ranged from 63 per cent on 1 day to 100 per cent on 17 days, and averaged for the month 95 per cent of the possible hours. The winds prevailed from the south with a total movement of 9,113 miles which is 3,274 miles more than the average for August. The relative humidity ranged from 8 per cent to 78 per cent and averaged 38 per cent.

Rains in September and October, 1912, and a covering of snow during the severest weather through the winter brought winter wheat to March in the best condition ever known in this section; and the drought in March did not injure it. In April there was precipitation enough to prevent deterioration. Estimates of a bumper yield were made. Insufficient precipitation and high, drying winds through May caused wheat to burn badly during the three days of excessive high temperature at the end of that month. The berry was then in milk; moisture and mild temperature were necessary to its development. When harvesting began in June many fields had not enough berry to pay for cutting and thrashing, and were burned over to prepare the ground for another crop. However, enough wheat had been sown on ground having good drought-resisting qualities to bring the aggregate yields to within one-third of the average for this (Sedgwick) county. The authentic estimates for this county and those adjoining are wheat, 77 per cent; oats, 36 per cent; corn, no grain of importance, but more than the average went into silos while still green and about 10 per cent of fodder; alfalfa hay, 33 per cent; seed, much more than normal; wild hay and pastures practically failures; berries and fruit, except apples, total failures; enough of the orchards were irrigated to save 25 per cent of the apples, but this fruit will be of poor quality. Produce dealers say egg deliveries fell off 90 per cent, young poultry 50 per cent, while old stock was thrown on the market to such an extent that the winter supply will have to be imported. Horses are "off" 20 per cent to 35 per cent, and all that can possibly be spared from the farms are being sold to avoid wintering. Food animals were marketed before the scarcity of feed became acute and while they were in condition, in anticipation of a feed famine. In many cases the stockers were disposed of, too, but some stockmen held theirs until they could not feed them another day. It was stated that some of these latter reached the local stockyards practically "down," nothing but skin and bones. As a rule, these same stockers brought more money per pound, though less per head, than the better-conditioned ones, being capable of taking on more pounds when transported to States where feed was plentiful. The price of food animals did not break, and the market quotations indicate good business. Feed became too high for most dairymen to profitably purchase, and some herds were sold, the prices, as a rule, being considerably under their values. The Wichita Beacon features a column of "Stockyard gossip" by a specialist in that line. The following is from a recent issue, and fairly represents the crop and stock situation in this section. Bentley is in this (Sedgwick) county; Haven is in Reno County:

F. Scott, of Haven, brought in a load of cattle and a load of hogs. Both are getting scarce. There are not many shoats and some are letting them go. Some farmers lack feed, having sold their wheat early in the season. They have a little corn fodder, some of which is in silos. Wheat straw will be their chief roughness. They have not begun feeding ensilage. Alfalfa is selling at $16 to $17 a ton.

John Williams, of Bentley, brought in hogs. They raised no wheat at Bentley, and as the corn has failed they have no feed. There is a large acreage of corn fodder, mostly in shock, but some in silos. It will be a close rub to winter their stock without shipping in something. They had but one cutting of alfalfa. They are selling off their shoats, but holding on to milch cows.

In the Arkansas Valley where the underflow is available pumping outfits were put in and there was never any danger of a water famine. Surface ponds dried up early in the season, and later, springs and deep wells that had lived through former droughts failed, and in some cases would not respond to "shooting" with dyna-

mite or deeper boring, but these were outside the valley. In some communities water had to be hauled miles by team or rail. But there was never a serious water shortage for human beings and a limited number of live stock in any community. The shortage of pasture and the certainty of high feed started cattle to market before wells failed, and the crop failure sent in the others about the same time that stock water for large bunches of cattle failed. Cattle died for water in a number of instances when the well or windmill failed to supply them as usual. But in every investigated case other water could have been procured in time had those in charge of the cattle visited them often enough to properly guard their trust.

The effect of the drought will not be as disastrous economically as previous ones, although it came as a climax to three successive years of poor crops, and more capital was involved in this than in any other. People seem to have confidence in the land as a source of wealth, and enough of them have resources they have created with money taken from the soil to keep the farms and businesses going until bountiful crops are made. There will be no more than normal emigration, and probably less of the movement from the farm to the city because there will be less opportunities in the cities until the farms are prosperous again.

DROUGHT OF THE SPRING AND SUMMER OF 1913 AT COLUMBIA, MO.

By GEORGE REEDER, Section Director.

At the close of April, 1913, the excess in precipitation for the first four months of the year was 2.19 inches, but by the close of the following month this excess had been cut down to a deficiency of 1.24 inches. It may be said that the drought in this vicinity began about the middle of April, as there was but one light shower after the 13th. The dry and sunshiny weather that prevailed during the latter part of April, however, was just the kind of weather needed, as there had been, owing to much moisture, little or no farm work done up to that time. The drought, though, steadily increased during May and June, and after becoming somewhat modified during July, culminated in one of the most disastrous droughts ever known here in the month of August and the first 10 days of September.

The showers in May were frequent, but they were too light to make the hay crop, which requires considerable moisture during this month. A short period of showers during the third week of June gave temporary relief, but the month closed with a total deficiency of 3.22 inches. The first half of July, on the other hand, gave frequent showers and a few good rains, the total for the month being 3.38 inches, which is only 0.27 inch below normal. About this time—the middle of July—the outlook had improved, and the community awaked to renewed optimism. The corn condition had improved, as well as pastures. But this pleasing outlook did not last long. On or about July 20 the drought set in again and a few days later, increasing heat; and from that time to the 10th of September, 53 days, only 0.93 inch of rain fell, 0.77 inch of this amount falling in August. The lack of moisture was, of course, intensified by excessive sunshine and high temperature.

The most harmful effects of the drought were that the hay and potato crops, as well as gardens and pastures, were reduced to nearly total failures, ponds dried up, corn was seriously damaged, and fall farm work was delayed.

In regard to a more concise opinion of the harmful effects of the drought, Prof. F. B. Mumford, director of the local experiment station, has kindly furnished the following information:

> The drought has been severe on upland soils of this county. The season has been very favorable for the maximum production of corn on the bottom lands in Boone County. It is difficult to estimate the actual cash damage to staple crops, but I am of the opinion that the yields on the uplands in this county will not be larger than one-third of a crop secured in a good corn year. The hay crop was very light, and the pastures have not been able to carry more than one-third or one-half as many animals during the present season as carried in an ordinary season. The general results of the very dry season and unusual hot weather have dried up the water holes upon which farmers have depended for stock water, and this, with the scarcity of feed, has compelled a large number of farmers to dispose of their stock cattle, sheep, and hogs, and also, what is still more serious, to dispose of breeding animals to a considerable extent. How great this loss is, it is difficult to estimate.

It is reported that the apple crop is seriously affected, and even the forest trees have dropped more than half their leaves, the ground being covered with them as much as one observes in late October.

THE HEAT AND DROUGHT OF 1913 AT HANNIBAL, MO.

By B. L. WALDRON, Local Forecaster.

The heat wave of 1913 was remarkable for its long duration and the very short periods of relief. It began on May 28 and from that time to September 7, a period of 103 days, there were but 21 days with the temperature below normal. There were 69 days with maximum temperature of 90° or above, and 9 days with a maximum of 100° or over, the highest being 103° on August 7. The average daily excess above the normal was 4.8°. The record of high temperatures by months was equaled in May and September and exceeded in August.

While the mean for the three summer months was not as high as in 1901, yet the mean for July and August combined was higher than during any previous year.

The relative humidity was much below normal, and it is believed there was less suffering from the heat than often occurs with lower temperatures, reports indicating that there were no deaths from heat and only one or two prostrations from that cause.

The summer of 1913 was the driest since the local office was established in 1892. The drought began April 10 and from that time to September 9 there were only two rains that exceeded one-half inch, and but one that exceeded 1 inch. During these 5 months there was a total rainfall of only 5.19 inches, and the accumulated deficiency for that period amounted to 13.87 inches. The drought of 1901 began April 7 and for the 5 months ending September 6 there was a total rainfall of 7.41 inches.

From information at hand it appears that crops are better this year than in 1901. This is probably accounted for, in part at least, by the fact that when the present drought commenced the ground was well saturated with water. Cultivation began as soon as the ground was dry enough and continued until the size of the growing crops prevented further working. In 1901 the winter had been excessively dry and the spring rains were only moderate.

The wheat crop was good this year, but most other crops were seriously damaged. Hay, oats, and gardens were nearly failures and it is reported that corn will hardly make one-half the usual crop.

The Mississippi River maintained a stage above the average for dry seasons, but the smaller rivers were very low. Palmyra, Mo., had much trouble in obtaining sufficient water and it is reported that other small towns in this vicinity had a similar experience.

NOTES ON THE HEAT AND DROUGHT DURING THE SUMMER OF 1913 AT KANSAS CITY, MO.

By P. CONNOR, Local Forecaster.

The drought of 1913 was not being felt in this section until about the close of June. The rainfall for July, while quite good, was still insufficient for grain crops, fruits, and vegetables, owing to the excessively high temperatures, the unusually clear sky, and dry atmosphere. The showers were chiefly north of the Missouri River. A short distance west and south vegetation at the close of the month was in a deplorable condition. Prospects were never brighter for good crops in all lines than at the beginning of summer, but each succeeding week saw them diminish most discouragingly. However, crops of all kinds were in better condition this year at the close of July than in either 1901 or 1911.

August proved to be the blighting month and came with exceptional severity while everything was in urgent need of relief. It had next to the highest mean temperature of any month on the records, the lowest humidity, the least cloudiness, and the greatest amount of sunshine, and not one cloudy day. The merciless sunshine seemed to sap the vitality of plants even well watered. It appeared as if the tremendous heat overcame the capillary action and the respiratory powers of vegetation. All late crops were failures. Corn that promised fairly well at the beginning of the month was damaged 75 to 90 per cent, and dairy and stock cattle were being fed as in winter. Some localities report that water was never so scarce, 50 to 75 per cent of streams and stock ponds being dry, and farmers in many localities had to haul water 5 to 9 miles for their stock. This was the most serious problem that confronted them and was the cause of sending a record-breaking number of cattle to the local market. Pastures were absolutely gone, and the quantity of milk was reduced 25 to 50 per cent. Winter apples are a total failure, and the peach crop was about 50 per cent short.

The drought this year was about a month later than in 1901 and nearly two months later than in 1911, in consequence of which all early crops were saved.

In contrast with 1901, the health of the community was remarkably good. Few deaths were ascribed to the heat, and the general good health of the community had been publicly commented upon. While remarkably high night temperatures prevailed, the very dry atmosphere, coupled with gentle breezes, gave quite good rest at night, even indoors, although most people slept out of doors.

Quotations on the necessaries of life would hardly be an exact index to the conditions in this section, as most of those products have been shipped in from States not so remote that the cost of transportation would add much to the purchase price. It is understood that merchants are placing smaller orders, in view of an inevitably reduced volume of business during the coming year. One large establishment is reported to have turned in only 65 per cent of the usual orders.

How the drought is viewed by other communities close by appears in the following notes:

Harrisonville, Mo., more severe than in 1901 and 1911.
Olathe, Kans., more severe than in 1901 and 1911.
Fort Scott, Kans., more severe than in 1901 and 1911.
Maryville, Mo., more severe than in 1901; about the same as 1911 for corn and other late crops.
Lexington, Mo., not so bad as 1901; more severe than 1911.
Dairy farm southwest of city, more severe than 1901 and 1911.

HEAT AND DROUGHT AT ST. JOSEPH, MO., DURING THE SUMMER OF 1913.

By W. S. BELDEN, Local Forecaster.

The deficiency in rainfall in this vicinity began about May 20 and continues at the present time, September 9, the actual rainfall for this period being 3.44 inches, or about 18 per cent of the normal amount. From July 8 to September 9, inclusive, there was only 0.64 inch of rainfall at this station, and during this time the temperature reached 90° or higher on 53 days and 100° or higher on 26 days, the highest reading being 105°. During the drought the prevailing wind direction was south, and the average velocity was somewhat above the normal. The relative humidity was decidedly deficient, especially in August, when at several 8 p. m. observations during the latter part of the month it was found to be as low as 20 per cent. From July 11 to September 9, inclusive, there was only one cloudy day.

The wheat, oats, and early cuttings of hay and other early crops were not affected by the drought, but the corn crop in this section will not exceed one-third of an average crop. Apples dropped badly and as result of the hot and dry weather there will be about one-tenth of a normal yield, the Jonathan and Grimes Golden yielding better than other varieties. Pastures have been barren of feed for weeks and the shipment of unfattened stock to market has been heavy. During the latter part of August one local railroad handled five times as many cars of stock as are usually handled at that time of year. The ground has become too dry and hard to plow with any degree of satisfaction, and as a result there has been practically no seeding of grass, especially alfalfa, and wheat seeding will be much delayed with diminished acreage.

In many places the dust in wagon roads is 3 inches deep. Hundreds of fires have been started by sparks from railway locomotives falling upon dry and parched vegetation, and the railroads are receiving many claims for damages resulting therefrom. Creeks and wells have failed to such an extent as to necessitate the shipment of water in some cases. Since August 3 five tank-car loads of water have been shipped daily from this place to Union Star, Mo., 25 miles distant. The failure of water supplies has also necessitated the hauling of much water by the railroads for their own use. A local contractor, who is building a concrete bridge over a creek never before known to go dry, is hauling water in barrels several miles in order to proceed with the work. At Maryville, Mo., the opening of schools has been delayed on account of the shortage of water, and the death rate in St. Joseph for August was considerably above the average, attributed to the adverse weather conditions.

THE DROUGHT AND HEAT IN THE VICINITY OF ST. LOUIS, MO., DURING THE SUMMER OF 1913.

By MONTROSE W. HAYES, District Forecaster.

By far the hottest and driest summer in St. Louis was the one of 1901. In that year the mean temperature for the period extending from June 1 to August 31 was 82.7°. The five summers that follow, in point of heat, are as follows: 1913, 80.7°; 1881, 80.6°; 1887, 80°; 1874, 79.3°; and 1899, 79.1°.

The dry weather in 1901 did not begin until June 10. There had been some copious showers just before that date, but beginning with the 10th and stretching into October there was a period of phenomenal drought. In the 113 days from June 10 to September 30, inclusive, the total precipitation was 3.25 inches. There were only 14 days with 0.01 inch or more of rain, and there were four protracted periods in which there was not a measurable amount of rain, one of 11 days, 2 of 17 days each, and 1 of 29 days.

The summer of 1881 was notably hot and dry, and a comparison of its mean temperature and total precipitation with similar elements for the summer of 1913 indicates that the two seasons were almost alike. However, there was one marked difference that must have had a material effect upon the growth and development of vegetation. In 1881 the dry, hot weather was not pronounced until in July, and that month and August were excessively droughty. In 1913 the rainfall was very deficient after the heavy precipitation of the first 10 days of April; then the July and August rainfall of this year, which the records show not to have been especially light in St. Louis, was phenomenally local. Sudden and heavy showers in the city in several cases amounted to mere sprinkles in the suburbs and surrounding country, where moisture was most needed. It is quite evident, therefore, that the early beginning of the 1913 drought must have affected crop growth more harmfully than the drought of 1881, which really did not begin until July. And it is probable that some crops were in 1913 injured to a greater extent than in 1901, as in the latter year the drought did not begin until June 10. However, the much hotter weather in 1901 may have overcome the advantage that the rains of the earlier part of the season would seem to have given.

The temperatures were not as high in 1913 as in 1901 and in 1881, but there was a long stretch of hot weather, beginning the 1st of June and continuing throughout the summer, except for a few short periods of relief. Neither in 1901 nor in 1881 did the weather become hot as early in the season as it did in 1913. From June 1 to August 31 there were, in 1901, 39 days with a maximum above 95°; in 1881 there were 33 days; and in 1913 there were 25 days. The highest temperature in 1901 was 107°, which is the absolute maximum for the station; in 1881 it was 105°; and in 1913 it was 102°.

In the vicinity of St. Louis vegetables and fruits, except the very early ones, gave a reduced, and in many instances an inferior yield. Some wells failed, and some of the coal mines across the river had to haul water or shut down.

Popularly, the summer of 1913 is considered the hottest and driest since 1901, which established a record for excessive heat and deficient precipitation, and judging it solely by its effects upon the crops and the water supply it very likely was.

There is inclosed herewith a copy of the August report of the secretary of the Missouri State Board of Agriculture, which may be of interest.

MISSOURI CROP REPORT.

COLUMBIA, MO., *September 6, 1913.*

August was an unfavorable month for Missouri farmers, yet there will be neither want nor famine. In the face of discouragements, made all the more noticeable because of the failure of the early season promise of a bumper crop, there prevails an optimism and determination most commendable. This feeling is reflected in most of the reports from correspondents, notwithstanding that in every county of the State there was a falling off in crop conditions during August. At Columbia the rainfall for the month was but 0.77 of an inch, as compared with 4.91 inches last year, 1.86 inches in 1911, 1.67 inches in 1901, and 3.04 inches as normal for August. The highest temperature recorded was 105° on the 7th but on 11 days during the month it was 100° or more.

Corn.—Reports from the 114 counties of the State place the condition of corn at 41.8, a loss of 29 points for the month. One year ago it was 86.8, and the total State yield for that year was 243,000,000 bushels. Condition of corn on September 1, as reported by crop division sections, shows: Northeast, 43; northwest, 45; central, 41; southwest, 34; southeast, 46. Even in the northwest section, where heat and drought did comparatively little damage earlier in the season, the crop suffered greatly during August. There is much good corn in river bottoms and on low land. On the other hand there are upland fields that will hardly make good fodder. The crop is very poor in the counties south of the Missouri River and bordering on or near Kansas. Benton and the counties to the south have also been hard hit. North of the Missouri River the greatest lack of rain has been in Audrain and other northeast counties. It is estimated that 20 per cent of the corn crop of the State has been cut and that 40 per cent more will go into shock. More silos than ever before will also be filled.

Wheat.—Dry weather has greatly interfered with preparations for sowing wheat. Correspondents report only 30 per cent of the ground plowed. Estimates for the new crop place it at 89 per cent of the acreage harvested this year. Without rain soon this will be further reduced, but sufficient rainfall and a favorable fall for seeding might increase the acreage.

Other crops.—Additional information on the oat crop indicates a State yield of 20.5 bushels on that part of the crop thrashed. Yield of timothy seed will be very light and acreage only 41 per cent of normal. The clover-seed crop promises well, but it is too early to give figures. Yield of rye is placed at 14.2 bushels, buckwheat 10.3, barley 18, flax 6, but final figures may differ. Condition of cotton is 67, tobacco 52, and cowpeas 53.

Live stock.—Water for live stock is now the most serious matter with which the average farmer is having to contend, 88 per cent of the correspondents reporting a shortage. Ponds have dried up and many springs and wells that had never failed are dry or nearly so. Pastures are brown and bare, the condition for the State being 25. It is estimated that 30 per cent of the farmers are now feeding new corn. However, owing to a general shortage of live stock, there may be no extraordinary demand for feed. Number of hogs on feed as compared with one year ago is placed at 58 per cent; number of spring pigs on farms, 75 per cent; number of sows for fall farrow, 72 per cent; number of cattle on feed, 54 per cent; number of stock cattle on farms, 73 per cent. It is estimated that 24 per cent of the cattle have been disposed of owing to drought. No doubt, much of this was "star boarder" stuff that needed to go. With good prices prevailing and with intelligent weeding out there has been no sacrifice or loss from this source.

A COMPARISON OF THE DROUGHT OF 1913 AND OTHER YEARS IN THE VICINITY OF SPRINGFIELD, MO.

By JOHN S. HAZEN, Local Forecaster.

This place has a normal precipitation above the average for the eastern half of the United States, and has therefore been considered practically immune from serious droughts. The average precipitation for Springfield, computed for a period of 23 years preceding the past three dry years, is 44.50 inches, but the unprecedented drought of the consecutive years 1910, 1911, and 1912 have reduced the actual average to less than 43 inches for a 26-year period. Annual deficiencies during the past three years of 7.99, 7.77, and 11.38 inches, respectively, in addition to a deficiency of about 13 inches during the crop-growing season of 1913, makes a total de-

ficiency of 40 inches, or practically the precipitation of one year since 1910. The unprecedented length of time, during which dry weather has continued, thus becomes a potent factor in the discussion of the present dry spell and has added largely to the severity of the crop losses.

This condition has resulted in the greatest scarcity of available water ever known in this usually well watered section. The James River, a stream which has an average flow of 1,500 cubic feet per second, is practically dry, and deep springs and wells, considered never failing, have gone dry. The available water supply of Springfield was so low that the use of water except for necessities was prohibited by order of the mayor of the city. Many farmers have been hauling water for two months, at serious loss and inconvenience, in order to keep their stock alive; and dust is so deep on country roads as to seriously impede traffic, especially by automobile. Pastures are burned up and little or no rough feed remains in the country. Farmers and dairymen are buying food for their stock, and milk and butter are selling at the usual midwinter prices. Thousands of trees have died and large numbers have been seriously injured, both the cultivated and wild. Many apple trees are shedding their buds, and the prospect for fruit next year is believed to be small. Nearly one-half the trees shed their leaves in August, and in many cases the leaves would shrivel and die in a day, as though the tree had been cut down or girdled. This condition apparently resulted from unusually low humidity during the latter portion of August, a reading of 14 per cent being reported from this station on the 30th. Complaints were made from all over the city of paper cracking and falling from the walls, and the increased danger from fires necessitated the establishment of patrols for the safety of the city.

The wheat crop is estimated as above the average, oats were poor, corn is from 33 to 40 per cent of the average, early potatoes were average, but late potatoes, gardens, hay, and forage crops as almost a total loss. The sowing of fall wheat has been delayed past the usual time, but many are sowing since rains.

All of the rainfall during the summer was of a local and restricted type, and in many cases good showers were reported as covering not more than 1 or 2 square miles. Springfield reported 1.75 inches on July 30, while 1 mile north and the same distance south no rain fell. As a result, occasional farms will be found with good crops, while perhaps adjoining farms have no crop, a condition more noticeable this year than ever before.

In 1901, 51 days with temperatures above 90° occurred during June, July, and August, as against 45 during the present season, and while the day temperatures were higher in 1901 than the present year, the excess in temperature during the growing season, April to August, was practically the same. August had an average temperature this year of 82°, the highest monthly August temperature ever reported at this station, and the highest monthly temperature ever reported here with the exception of July, 1901. The drought conditions were aggravated during the present year by an unusually large percentage of sunshine, excessively low humidity and vapor pressure, and with winds above the average.

Bankers in this place generally report collections as slow, and as likely to continue thus for a year or more. Much surplus stock has been disposed of on account of the scarcity of feed, but reports from among farmers do not indicate greater discouragement than in 1901, and high prices are being realized for all products.

Typhoid fever, hay fever, and asthma have been unusually prevalent during the present year, due it is believed to the low-water supply; at the same time there has been a marked decrease in the number of flies during the summer, as compared with previous years.

THE DROUGHT OF 1913 AT LINCOLN, NEBR.

By G. A. LOVELAND, Section Director.

The dry period of 1913 at Lincoln, Nebr., began on June 8 and continued until September 7. During this period of three months only 2.84 inches of rain fell, which is but 25 per cent of the normal. Only two showers occurred with sufficient rainfall to be beneficial to vegetation during this time, 0.62 inch on the 26 and 0.99 on the 28th of July. This is the smallest rainfall in 92 days at this time of the year ever recorded at Lincoln, Nebr. The years that most nearly approach this for small rainfall are 1881, 1886, and 1894, but in each of these years while the rainfall for July and August was small that for June and September was ample.

The temperature was high the last half of June and the first half of July, but the remarkably high temperatures of the hot period did not begin until July 13 and lasted until the 17th, 5 very hot days with maximum temperatures from 102° to 109°, then followed a week of moderate temperature after which the real heated period began. From July 26 to September 7 high temperatures continued almost without a break, only on four of the 44 days was the mean temperature below normal, and then but slightly. The maximum temperature was 100° or above on 23 of the 44 days, was below 95° on 11 days, and below 90° on 7 days.

The only hot period that compares with this occurred in 1901. This began June 23 and ended August 1. In these 40 days the maximum temperature was 100° or over on 25 days, was below 95° on 9 days and below 90° on 4 days. The mean temperature for the 40 days was 85.6° and for the hottest 44 days, June 21 to August 3, the mean temperature was 84.6°. For the 44 days, July 26 to September 7, 1913, the mean temperature was 83.5°.

For the period June 1 to September 7, 1913, the average temperature was 79.9°, the highest on record for the same period, although some of the individual months were not as high as in 1901.

The dry weather materially injured vegetation. There is no official estimate of the damage to crops obtainable, but the corn crop in this section will be exceedingly light, almost a failure, and all grass and forage crops are very light, except the first cutting of alfalfa. All fruit and garden vegetables were much injured. The water here is nearly all pumped from deep wells and was not affected.

THE HEAT AND DROUGHT OF 1913 AT OMAHA, NEBR.

By L. H. WELSH, Local Forecaster.

An examination of the records of this station shows that the present period of drought and heat has never been exceeded in intensity and duration, including at it does practically all of July, all of August, and the first week of September. While less precipitation than fell during July has been recorded in other months of the same name a few times in previous years, and the mean temperature has been equaled once and exceeded once, they were not coincident, and were followed by cooler and wetter weather during August than was the case this year.

The mean temperature for July was 79.8°, or 3.3° above the normal, with seven days having maxima of 100° or above; 13th–17th with 100° to 104°; 29th, 100°; and 30th with 101°. The total rainfall amounted to 1.92 inches, or 2.41 inches below the normal; fairly good showers occurred on the 6th, 7th, and 28th, and five light showers between the latter dates.

The mean temperature for August was 82.4°, or 8° above the normal. This is the hottest August of record, and in fact the hottest month, except July, 1901, the mean of which was 85.1°. On only 1 day was the mean temperature below normal, and on 10 days the maxima reached 100° or higher, 105° on the 8th equaling the previous records. The precipitation amounted to 0.18 inch, the smallest amount ever received in August, and 3.44 inches below the normal. A fall of 0.12 inch occurred on the 10th, and the remainder in four light showers after that date.

The drought and heat wave continued into September, and the mean temperature for the first 7 days was 88°, or over 18° above the normal, and on the 4th and 5th 100° was recorded. Light showers amounting to 0.06 inch fell on the 2d.

Compared with previous years, the present period shows that at Omaha there were 19 days with temperatures of 100° or above, while in 1901 there were but 15, 14 of which occurred in July and 1 in June. The precipitation for July exceeded that of last July by 1.06 inches, and August of that year had 0.65 inch, and the mean temperature was 5.5° lower than that of the present August.

On approximately 50 days temperatures of 100 or higher occurred at one or more points in the State from which reports are received.

The damage to crops was confined principally to corn and hay, as the small grain was practically past the stage where it could be seriously affected when the drought became pronounced. Gardens and trees suffered greatly, and on account of the baked condition of the soil fall plowing was seriously delayed. Locally there was little complaint on account of a shortage of water. Opinions as to the damage done to crops vary so greatly that it is impracticable to make any estimate as to the amount of loss, but according to the best of authorities the corn crop will amount to from 25 to 40 per cent of the average yield.

The effect of the continued heat and lack of rain upon human and animal life was not serious, owing to the low humidity that obtained most of the time.

REPORT ON THE DROUGHT OF 1913 IN THE VICINITY OF NORTH PLATTE, NEBR.

By A. H. SHILLING, Assistant Observer.

The warm spell of the past summer practically began toward the latter part of May, that month ending with an average excess of temperature of 1°, and there were 3 days with temperatures of 90° or more in the last decade. June temperature was also above the normal with an average daily excess of 2.2° and with 6 days with 90° or more. July taken on an average and comparing with other years, was not unduly warm, as the average temperature for the month, 74.4°, is only 0.5° above the normal. In July there were 13 days with temperatures of 90° or more, which is slightly above the average for such days, and has been equaled or exceeded in 8 years since 1875, notably in July, 1901, with 27 days. August and the first 7 days in September was the hot period during the summer in this vicinity. August with a mean temperature of 77.3° exceeds the normal by 5.1°, and the temperature in the first week of September averaged 13.3° above normal. There were only 10 days in the period August 1 to September 7, inclusive, on which the temperature did not reach the 90° mark or higher. On August 27 a maximum temperature of 103° was registered, which equals the former record for high temperature for that month, made on August 7, 1878. This was also the highest temperature recorded during the summer.

Comparing the temperature from May to September 7, inclusive, this year with a like period in the years 1881 and 1901, which were warm summers, indicates that this has been the record summer for continuous extreme hot weather in this locality. The mean temperature of 72.6° this year for the period as compared with the means for the same period in 1881 and 1901, 71.4° and 71.0°, respectively, shows that this is the warmest summer since the establishment of the station in the fall of 1874. This present summer also exceeds the record for days with maximum temperature of 90° or more by 50, as compared with 39 days in 1881 and 41 days in 1901. In 1881 and 1901 the last 2 or 3 days of August were free from excessively high temperatures, and the early part of September was comparatively cool, whereas this year the excessive heat continued to September 8.

The rainfall from May 1 to September 7, inclusive, was 9.99 inches, slightly greater than in 1901, which was the driest season in the history of the station. The rainfall was ample and well distributed up to the end of the second decade of June, and around the 1st of July the outlook for crops was most promising, and farmers and merchants were jubilant over the prospect. The rainfall decreased considerably in the last decade of June and the first week of July, just at the critical period for all small grains, and the consequence was that despite the outlook which had been so promising in the early part of the season they gave only fair yields in this part of the State. During July the rainfall, while above the normal, was offset by hot, dry, clear days, and no relief was experienced. In August the rainfall was decidedly deficient and poorly distributed, nearly two-thirds of the total amount falling in two hours on the 19th. The rainfall during the first week in September at this station was 0.01 of an inch, although good rains were reported east and west of here.

The following statements regarding the effects of the hot weather upon crops, water supply, and animal life is obtained principally from Mr. H. C. Diesem, irrigation engineer, Office of Experiment Stations, and Dr. W. T. Pritchard, Bureau of Animal Industry, and also from local merchants and farmers in this vicinity.

Nonirrigated lands.—Wheat: Yield fair, averaging from 12 to 15 bushels to the acre, which is slightly below the 10-year average. Corn: Yield of seed complete failure; fodder made a very poor growth and where not cut for ensilage is almost a complete loss. Alfalfa: First crop average yield; succeeding crops very poor, in many cases the plants not starting after the second or third was cut. Potatoes where raised are small, with poor yield. Garden truck after July 1 dried up. Wild hay made about 60 per cent of a crop.

Sandhills region.—Corn made a fair growth with a fair yield. Potatoes very nearly average yield and of a good quality. Pasturage good, and ranchmen are hold-

ing their stock later this year than formerly. Cattle are in good shape and if sufficient food can be obtained the farmers will be able to keep them through the winter.

Irrigated lands.—(Irrigated area in Nebraska for 1913 is about 300,000 acres, nearly all of which lies within the southwestern and western portions.) Where sufficient water supply has been available fair to good crops have been grown.

Water supply.—Practically all the streams in this section of the State carry what is known as the "underflow." The water supply has, therefore, been affected only to the extent that the water table has been lowered from 1 to 3 feet according to the locality. There has been no report of wells going dry, and the supply has been such that there was no scarcity of water.

No especial inconvenience resulted to human life from the hot weather and there were no prostrations or deaths from extreme heat reported in this vicinity.

DROUGHT IN OKLAHOMA, JULY AND AUGUST, 1913.

By J. P. SLAUGHTER, Section Director.

Weather conditions were favorable during the spring and early summer, ending with general and copious rains June 30 and July 1 over nearly the whole State. Up to the middle of July the condition of all crops was excellent, but by the close of the month nearly the whole State was facing a serious drought and conditions grew steadily worse until the general rains of September 8–9.

There were no general rains from July 3 to September 7, such local showers as occurred being widely scattered and light. The injurious effects of the failure of the usual summer rains were augmented by clear skies, unusually high day temperatures and occasional hot, drying winds. Intense heat was practically continuous from July 4 to August 7. There were but two short periods of seasonable day temperatures, July 20–22 and August 22–24, and in each instance barely normal conditions were reached. The nights were reasonably cool and pleasant during this entire period and there was no material suffering by man or beast as a direct result of the heat.

For the 68-day period July 2 to September 7 the total rainfall at Oklahoma City was 0.57 inch, as compared with a normal of 7.33 inches. The mean temperature for July was 81.7° and the average daily maximums 92.6°; for August the mean was 84.8° and the average of the daily maximums 97.6°.

For the State the rainfall for the 60-day period July 2 to August 31 averaged 1.63 inches, as compared with a normal of 5.85 inches. The average temperatures for July and August were 83.8° and 85.5°, respectively, while the averages of the daily maximums were 97.3° and 101.3°, respectively. The figures for the August State mean temperature have been exceeded twice, August, 1899, and July, 1901. The August average of the daily maximums is the highest of record, exceeding the average of July, 1901, by nearly 1°. Summing up, it may be said that the temperature extremes experienced this summer are equaled nearly every year and have been exceeded several years, but for duration of intensely hot weather July and August of this year establish a new record for Oklahoma.

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The drought cut the condition of crops on an average close to 50 per cent. The ultimate result, however, on crop yields is still a question of doubt and depends largely on the date of killing frost and the intervening weather conditions. It is estimated at this writing, September 16, that the loss will not be so large as the above figures indicate. Cotton will suffer most heavily and the per acre yield will almost certainly be the lowest in the history of the State. Early planted corn matured with but slight injury or loss; late planted corn is largely a total loss and the same may be said of a considerable portion of the late planted kafir, milo maize, and broom corn, large acreages having "fired." The alfalfa crop will be short one cutting; the last cutting will be light and the stand has been materially damaged in some localities. Feterita, introduced in recent years, stood the drought and will make good yields.

The Cimarron, North Canadian, and South Canadian Rivers were dry during August; in many places sand and dust were blowing along the river beds. The smaller streams and many springs and shallow wells failed, and there was a serious shortage of water for both stock and domestic purposes, more especially in the western half of the State. Some of the cities and towns were using water sparingly and were face to face with a genuine water famine when the September rains came. Farmers were impelled to market large numbers of cattle and hogs because of scarcity of water, failure of pastures, and the anticipated shortage of feed, but there was no loss of stock because of lack of water.

The drought emphasized the necessity of the farmers of Oklahoma adopting the methods advised by the farm demonstrators of the Agricultural Department, and the State. In numerous instances that came under the writer's personal observation only a barbed wire fence separated a green and fairly thrifty field of kafir or corn from one that was burned and dead; the difference in the two fields was due solely to preparation of the seed beds and the methods of cultivation.

The most disastrous drought in the history of the State was that of 1895 and was due to the failure of rains in the fall of 1894 and the winter, spring, and early summer of 1895. There was no unusually hot weather that year and precipitation was abundant in July, August, and September. In 1901 conditions as regards temperature were much the same as this year, except that the period of intense heat began the latter part of June and ended during the first decade in August. The rainfall was deficient from June 20 to September 30, but averaged nearly twice as much as during the drought of this year. Precipitation was deficient during the spring and summer of 1910 and the season generally droughty, but there were no protracted periods of intense heat that year. In 1911 the May and June precipitation was light and during practically the whole month of June and the first 10 days of July temperatures were abnormally high; the mean temperature for the State for June was 84.4°, or 8.6° above normal; the average of the daily maximums was 99.1°, with the extremes ranging between 105° and 112°. Grain was greatly damaged that year, but abundant rains and seasonable temperatures in the late summer and early fall saved the cotton and forage crops.

While the recent drought has greatly damaged crops, the consensus of opinion of the best posted men in Oklahoma is that in the aggregate the crop yield for the State this year will certainly equal that of 1910 or 1911.

REPORT ON THE DROUGHT OF 1913 IN ARKANSAS.

By H. F. ALCIATORE, Section Director.

While the summer of 1913, with a mean temperature of 80.2°, which is 1.7° above the normal, was an unusually warm one, yet the records show that there have been three warmer ones, namely, the summer of 1896, with a mean of 81.3°; that of 1901, with a mean of 81.2°; and that of 1909, with a mean of 80.4°. The highest temperature recorded this summer was 107°, August 6, as compared with 116° for the summer of 1901. In August maximum temperatures ranging from 100° to 107° occurred at two stations in the eastern half, and at nine stations in the western half of the State on 10 to 20 days. At all stations but three, the thermometer reached the 100° mark on one or more days.

Considering the summer as a whole, June, July, and August, the average rainfall for the State was 7.61 inches, which amount is 4.32 inches less than the normal The drought was not a general one, as in not more than 35 or 40 per cent of the agricultural portions of the State was its effect felt. There was considerably less than the average rainfall at 19 out of 54 stations, of which two are in the northeastern, 5 in the southeastern, 7 in the northwestern, and 5 in the southwestern district, the deficiencies ranging from 2.82 inches in the southwestern to more than 9 inches in the northwestern counties. There have been drier summers than the present one since observations began.

In 1896 the summer rainfall averaged 5.84 inches, which is more than 5 inches below the normal, and in 1901 the average was only 6.89 inches.

The drought of 1913 began about July 14 in some parts of the State, and later in other parts. Barring fairly general showers on July 25 and 26 and on August 10 and 23, the total rainfall from July 14 to September 6, a period of 55 days, was widely scattered and insufficient in most of the counties from which reports have been received.

It was not until the close of July, however, that the drought became serious. August, with one exception, 1909, average rainfall 1.27 inches, was the driest month of that name on record. No rain occurred in the State between the 4th and 8th, and the last 8 days were practically rainless, while on the other 18 days of the month the rainfall was very light and scattered. The total fall ranged from 0.01 inch at Bentonville to 8 inches at Calico Rock, the latter amount having occurred in 24 hours. The rainfall was deficient at 47 out of 54 stations, and at 21 stations the total fall was less than 1 inch. Of the 24 localities in which the deficiency equaled or exceeded 2 inches, 18 were in the northern half of the State. An excellent idea of the duration and severity of the drought may be had by considering the rainy days at a few representative stations. In the northwestern district we find Bentonville with a record of 0.01 inch in 43 days; at Fort Smith no rain of consequence occurred during a period of 37 days beginning with August 2; and at Bergman rain occurred but once in 42 days. In the northeastern district, Pocahontas had only two light showers in 43 days, and Corning only three showers in 42 days. In the southeastern district, Pine Bluff shows two days with rain in 39 days, and Stuttgart only one light shower in 45 days. Finally, in the southwestern district, Mena and Centerpoint reported one shower each in a period of 40 days, and at Amity rain occurred only once in 46 days.

The drought was practically broken by fairly general and, in some places, heavy rains that fell September 7, 8, and 9.

As to the effects of the drought, it appears that all the staple crops were more or less damaged over the greater part of Arkansas, but the greatest damage occurred in the western part of the State. The Little Rock Board of Trade has estimated the damage to corn and cotton crops to be about 25 per cent, as compared with conditions of August 1, in the eastern half and from 25 to 40 per cent in the western half.

So far as known, there has been no complete failure of the water supplies in cities and towns that have waterworks.

The rivers were all very low in August and the early part of September. At Little Rock, on the Arkansas River, a new low-water record was made on September 4, when the river fell to a stage of 1.3 feet below zero, and remained at that stage until the 10th. This is the lowest recorded stage in any month of the past 34 years.

In conclusion it should be stated that while the drought and the excessive heat of the present summer have been very damaging, yet there is no evidence of anything like a general failure of crops, except, perhaps, in a few localities here and there.

THE DROUGHT OF AUGUST 2–SEPTEMBER 7, 1913, AT FORT SMITH, ARK.

By LEON J. GUTHRIE, Observer.

In the vicinity of Fort Smith an unusually dry, hot period began August 2, 1913, and partially terminated September 8, 1913. It could scarcely be termed an unusually destructive drought, as ample and well-distributed rains that occurred in July and on August 1 gave considerable surplus moisture and practically assured fair staple crops. These preceding favorable conditions greatly lessened the discomforts and losses that otherwise might have resulted from the protracted period of abnormally light rainfall and continuous heat.

On August 1, 0.82 of an inch of rain fell. From that date until September 8 the total fall was 0.02 inch. This is the longest period without substantial rainfall that has occurred at the Fort Smith station; but there have been several periods nearly as long, and some of them were preceded by less favorable conditions.

High day temperatures and abnormally low relative humidity were the characteristics of the period. The mean maximum temperature for August was 98.1°, the highest for any month of record. The highest previous records were 97.9° in July, 1901, and 97.7° in August, 1896. There were 13 days on which the maximum temperature reached 100° or higher. The greatest number of consecutive days with maximum temperatures of 90° or higher that has occurred during the 31 years of record began July 13 and ended September 7, 1913.

The relative humidity was the lowest of record, and toward the latter part of the month, under the influence of southwesterly winds, afternoon readings as low as those prevailing in arid regions were obtained. The mean for the month of August was 55 per cent, which is 15 per cent lower than the August normal. The lowest observed reading was 10 per cent at 5 p. m., August 29.

Upper clouds predominated, and the distinctive "fair weather type" of cumulus was seldom observed. The

sunshine averaged 88 per cent of the possible amount. There were 15 days with 100 per cent of sunshine and none without some sunshine. The wind movement was below normal, especially at night, and there were no high winds.

The effects of the drought upon vegetation were not noticeable until the middle of August, when the abnormally low moisture content of the air began to hasten the exhaustion of surplus moisture and prevent the usual copious deposits of dew. During the latter part of August the deterioration was rapid. Grasses, especially the Bermuda grass of the city lawns, were first affected, and the lawns had assumed their midwinter lifeless appearance by August 31. The soil became dry to an average depth of 6 or 8 inches; and for fully three weeks the country roads and some of the unpaved city streets were almost impassable on account of dust.

The drought occurred too late in the season to cause such radical injury to cotton as had been suffered in a number of previous years, notably 1896 and 1911, the season's loss, estimated by competent authorities, being about 30 per cent of the normal crop. Though the season's fruit crop was uninjured, it is believed that the negligence of fruit growers in failing to cultivate the orchards and the strawberry beds during the critical period will materially reduce next season's crops, and may result in the ultimate loss of a number of trees. The damage to the corn was about 40 per cent and to late potatoes 50 per cent of the normal crops. Owing to lack of moisture very little late garden truck was planted, and that planted was nearly a total loss.

The volume of water in the Arkansas River was the smallest in many years, though the records show lower gage readings. There were places where the river was only 15 or 20 yards wide and easily fordable. There was, however, little suffering or inconvenience on account of depleted water supplies. The Poteau River, from which the city of Fort Smith is supplied, was exceedingly low, but auxiliary pumps prevented serious inconvenience, except during the two or three days consumed in placing the pumps in service. The water supply in wells and small creeks became low, but it was not wholly exhausted at any time.

Neither the intense, protracted heat nor the extreme dryness produced any marked physiological effects. The heat, accompanied as it was by low humidity, caused little physical discomfort and no sunstrokes. There were, however, a few days with heavily dust-laden atmosphere, and this was the only really disagreeable feature.

DROUGHT AND HEAT WAVE OF 1913 IN IOWA.

By GEORGE M. CHAPPEL, Section Director.

The year 1913 will be noted for its long-continued high temperatures and droughty conditions, especially over the southern half of the State, but in several respects the adverse conditions were not as well marked as in the memorable years of 1894 and 1901. Considering the combination of high temperatures and lack of moisture the summer of 1894 was the severest in its effects on staple crops ever experienced in this State, although the temperature was not as high nor were there as many days with readings of 90° or above as there were in 1901, which was the hottest summer on record for this section.

This year the temperature was above the normal nearly all the time from June 13 to September 7, inclusive. August was warmer than July, and the first week of September was the hottest ever recorded in that month, and over much of the State it was the hottest week of the season. The rainfall was below the normal for each of the summer months, but as there had been an excess of precipitation during March, April, and May, the high temperatures during the latter half of June and the first half of July were considered favorable for the staple crops, and corn probably never made a more rapid growth than during the last 15 days of June, but owing to the cold and backward spring and the adverse conditions during the planting season and the average condition of corn on July 1 was only 93 per cent as compared with the average of past years on that date, as shown by the reports of the Iowa Weather and Crop Service.

July was the warmest month of that name since Statewide observations began in 1890, except in 1894 and 1901, and it was the driest since 1894. There was an average deficiency of rainfall for the State of 2.62 inches, but over the southwest quarter and practically all of the north half of the State there was sufficient moisture to keep corn in fine condition, but at the close of the month pastures, potatoes, and garden truck were in need of rain. In the southeastern counties where the average precipitation for the month was only about 0.25 inch, and where several stations within that area reported only a trace during the entire month, pastures were bare, corn was seriously injured, and water for stock was getting scarce. The excessively high temperatures that prevailed for the four days July 13 to 16 were injurious to corn in that it damaged the pollen and prevented perfect fertilization.

The high temperatures and lack of moisture continued during August, but these features were more pronounced in the southern than in the northern part of the State. While the northern section had an excess of 3.4° in temperature and a deficiency of 0.61 inch in rainfall, the southern section had an excess of 6.4° in temperature and a deficiency of 2.13 inches in precipitation. These departures were still more marked in the southwestern counties, where it was the warmest August on record, and one of the driest. The excessive heat was almost continuous throughout the month, and on many days the maximum temperature readings were near or above 100°. At Northboro, Page County, the maximum temperature was 90° or higher on 29 days and 100° or higher on 16 days. The precipitation came in local showers which were poorly distributed geographically, and throughout the month. Thurman, in Fremont County, recorded only 0.08 inch, while Winterset, in Madison County, recorded 7.13 inches, and in Pocahontas, Palo Alto, Clay, and Dixon Counties the monthly amounts ranged from 5 inches to 6.99 inches. While there was a generous amount of moisture over a large part of the State, its beneficial effect was only temporary, as the hot, dry winds caused rapid evaporation, and at the close of the month all vegetation was suffering for water. Wells were failing and small streams were dry in the southern part of the State, and in many localities stock was being fed as in winter on account of the lack of pasturage.

Excessively high temperatures and almost a total absence of rainfall prevailed during the first seven days of September. It was, in fact, the hottest week ever recorded in the State in September. The daily maximum temperatures were above 90° in practically all sections, and in the southern counties they were 100° or higher. The intense heat, bright sunshine, and brisk winds absorbed what little moisture there was left in the ground

and vegetation. Corn was rushed to maturity prematurely, and late potatoes were considered almost a failure. The ground was too hard and dry to permit plowing, and as a result its preparation for winter wheat was greatly delayed.

THE DROUGHT OF 1913 IN TEXAS.

By B. BUNNEMEYER, Section Director.

Droughty sections of Texas, while they may form a large portion of the State in the aggregate, are usually interspersed with areas of greater or less dimensions that have not suffered materially from lack of precipitation. In so large a State with its varying geographical features and climatic conditions, it is not likely that any considerable area should go entirely without moisture for so long a time as two months. Individual localities, however, may go without precipitation for even longer periods, while neighboring sections during the same time may have been well supplied with moisture, due to the fact that the summer rainfall occurs nearly always in local showers. Independent of the deficiency of precipitation the severity of a drought depends largely upon its effect on animal and plant life. The mere absence of rainfall for any protracted period may do no harm if the ground be well soaked previously, as many plants, and especially cotton, seek the moisture in the subsoil, and can therefore live for some time after the surface soil may have become pulverized from the dryness.

CONDITIONS PREVIOUS TO DROUGHT.

The winter of 1912–13 started in auspiciously with well-timed rains that put a good season in the ground, the amount of moisture received during the winter months averaging 0.78 inch more than normal for Texas as a whole. A decided setback occurred during the spring months, which normally constitute the wettest season of the year, but in this case showed a total shortage of 2.59 inches. No material harm resulted, however, as there was not only considerable moisture in the ground from the winter rains, but also the precipitation was well distributed, because the monthly amounts increased as the weather grew warmer and more moisture was needed. The average precipitation for March was 1.69, for April 2.02, and for May 2.55 inches, and although these amounts were below the normal they were encouraging and kept the husbandman in good spirits. June added decidedly to the prospects, with a total rainfall of 3.61 inches, which exceeded the normal by 0.18 inch, and optimistic crop reports came in from all sections.

DURATION AND AREA OF DROUGHT.

The month of June closed with splendid showers, and showery conditions continued until July 5, which marks the inception of the drought, although the dryness was not seriously felt during the succeeding two or three weeks on account of the preceding good rains. Droughty conditions continued until September 6, when a showery area overspread the State, which continued for several days and culminated in general and heavy precipitation. It is difficult to define the exact limits of the drought-stricken area for reasons already explained in the introductory remarks. Nearly all sections of the State suffered at some time between July 5 and September 6, but in the main the area of least precipitation embraced the central and southwestern portions of the State in July and the northern portions in August, although in either month there were scattered sections in other portions of the State that also received little or no moisture.

PRECIPITATION.

The average rainfall for July was only 1.29 inches, notwithstanding the fact that record-breaking rains occurred during the opening days of the month in northeast Texas, centering around Hunt County, with amounts ranging from 5 to over 10 inches. There were also good local showers in the lower Panhandle and portions of northwest Texas. The August rainfall was slightly less than that of July, amounting to 1.26 inches, but there were beneficial showers in many central and southern counties, the shortage for the two months being 1.62 and 1.15 inches, respectively. While there have been three years since 1888 in which July was drier than in 1913, and four years in which August was drier, yet, taking the two months together, they were drier than any other corresponding period since 1888. All in all, there were 50 localities in various parts of the State that received no moisture, or at least not more than a mere trace, during one of the two months. Of this number 24 occurred in July and 26 in August. At four of these stations, located in Burleson, Callahan, Duval, and Nueces Counties, there was no precipitation during either month. The average number of days with 0.01 inch or more of precipitation was small, being only two in July and four in August, and there was a correspondingly large number of clear days, amounting to 21 for July and 18 for August. The number of clear days in July broke all previous records.

TEMPERATURE.

An aggravating factor of the droughty condition was the persistently high day temperatures coupled with excessive sunshine, which caused the ground to dry rapidly after any occasional showers. From July 5 to September 6 the highest daily temperatures averaged as follows: 94° on 9 days, 96° on 26 days, 98° on 23 days, and 100° on 6 days.

Temperatures at individual stations ran much higher in the northern and northwestern portions of the State, the highest reported for July being 110° at Graham, Denton, and Jewett; and for August, 110° at Graham, and a number of stations had an average maximum temperature of 100° or slightly higher.

The mean temperatures for July and August, while 1.2 and 1.4°, respectively, above the normal, were not as high as recorded in some previous years. Since 1888 there were six years in which July was warmer and seven years in which August was warmer. The warmest July was that of 1909, with an average excess of 2.4°, and the warmest August that of 1902, with an average excess of 3.6°; but there was probably no year in which the temperature was more evenly and persistently high. The year 1909 was droughty, while 1902 was wet, although August of that year was exceedingly dry, with a total rainfall of only 0.30 inch, which is the lowest of record for that month. The month was, however, preceded by an unusually wet July and followed by an unusually wet September.

DAMAGE.

The damage from the hot and dry weather can hardly be estimated at this time. All crops suffered more or less, but of the staple crops cotton appears to have been damaged most and corn least. The latter crop had been largely harvested before the drought became serious, and some of the cotton had also been picked. The official crop report of September 1 gave the condition of cotton in Texas as 64 per cent against an average of 72 per cent for the previous 10 years, while that of corn was 78 per cent against a 10-year average of 74 per cent. The yield of hay was given as 1.16 tons per acre against a 10-year average of 1.48 tons per acre. The boll weevil added to the damage suffered by cotton, especially in southwestern and southern counties. In many sections of the State the water supply for man and beast depends upon the rainfall, and in such sections a large number of cisterns and reservoirs became exhausted, while streams were generally at low-water mark and some river beds entirely dry.

PREVIOUS DROUGHTS.

While droughty conditions occur locally in one or another section of this vast State almost annually, there are only five years since 1888 in which droughts of more or less severity occurred over considerable areas and in which the total rainfall for the crop season was at least 4 inches less than the normal. The following table shows these droughty years, together with the total precipitation for the crop-growing season and the departures from the normal. The condition of the season for 1913 has been added for purposes of comparison.

Year.	Spring.	Departure.	Summer.	Departure.	Total departure.
	Inches.	*Inches.*	*Inches.*	*Inches.*	*Inches.*
1893	6.84	−2.01	5.93	−2.82	−4.83
1896	4.57	−4.28	4.95	−3.80	−8.08
1901	6.82	−2.03	5.28	−3.47	−5.50
1909	5.69	−3.16	7.94	−0.81	−3.97
1910	8.05	−0.80	4.52	−4.23	−5.03
1913	6.26	−2.59	6.16	−2.59	−5.18

From the foregoing table it will be seen that the year 1896 showed the greatest shortage of precipitation during the crop-growing season, but it had good rains during the winter and fall. In 1893 every month except November showed a shortage, and in 1901 every month except September. The drought of 1910 was probably severer than that of the current year, and the rainfall for July and August was greater by 0.07 inch than for the same period in 1913; but the preceding month of June was unusually dry in 1910, with a shortage of 1.53 inches, while in 1913 June was wetter than normal.

HOT WINDS.

Occasionally the northern and western portions of the State are visited by hot winds from the south and southwest, which usually occur during the passage of an area of low pressure and are exceedingly trying to animal and plant life on account of their withering effect, and for that reason deserve passing notice in this connection. During the last two days of June, 1907, such winds occurred over a large area of northern and western Texas with temperatures ranging from 110° to 117°, causing serious damage to vegetation. At Ballinger, where the thermometer registered 116°, the heat was sufficient to kill shrubbery and cause the leaves to fall from the trees.

NOTES.

The following notes have been extracted from reports of correspondents and cooperative observers for July and August, 1913:

Big Spring.—July: Crop prospects are good in most of the county. August: Hot winds ruined the cotton crop in the last three weeks, cutting it in two. Early feed is good for the most part.

Boerne.—July: The prospect for a full crop of cotton has been destroyed by heat and want of rain. August: There was no rain in the last 63 days to do any good. This has materially reduced cotton crop, garden truck, sweet potatoes, and tomatoes.

Canadian.—July: Corn was blasted by hot winds on the 14th, 15th, and 16th. August: There were 18 days with temperature 100° or higher, of which 13 occurred consecutively.

Corsicana.—July: Crops are better in this county than immediately west and south. August: Some cotton will make only half a bale per acre. Prospects for cotton are not now as good as was expected.

Gorham.—July: The weather was very hot and dry, with quite a bit of wind that was very damaging to all growing crops. Corn is all about ripe, but of poor quality. Cotton plants are small and very much in need of moisture. August: The weather was hot and dry. The last half of the month was very severe on cotton and other plant life.

Hondo.—July: The weather was dry and hot and the boll weevil is hurting cotton. A general rain is needed. August: The weather continued dry, good for cotton picking, but the crop has been cut short on account of the boll weevil. A good general rain is needed.

Jewett.—July: The weather was hot, dry, and sultry. The corn is all burnt up and nothing but young cotton will be saved by rain now. August: The weather was hot and dry. Cotton is coming in rapidly.

Sealy.—July: The crops are suffering badly on account of the terrible heat and drought which is cutting the cotton crop considerably below what it was last year. August: The precipitation was somewhat heavier than last month, but consisted only of local showers. There is plenty of moisture in some places, and probably not half a mile away everything is burnt up. A hard rain right now would mean much damage to cotton, as the greater part of it is still in the field.

Cuero.—July: The cotton is very much in need of a good rain.

Flint.—July: The cotton is nearly gone. All other crops have been damaged by the dry weather.

Fowlerton.—July: The drought did not hurt the crops, as the heavy rains of June were enough to offset the dry weather.

Snyder.—July: The crops in this section are very good. Cotton and feed will be plentiful.

Spur.—July: All crops are late, but now growing well. The early cotton that was damaged by the drought has been largely replaced by feed stuff.

Sutherland Springs.—July: The cotton looks bad and the crop will be short.

Angleton.—August: Three-fourths of the boll squares have fallen, due to the wet weather and the boll weevil. The wet weather also damaged corn standing in the field.

Archer City.—August: Crops have been damaged severely by the hot and dry weather. The supply of stock water has been exhausted.

Goree.—August: Hot winds in July and dry weather in August have ruined cotton, which is from 25 to 50 per cent behind last year's yield.

Kaufman.—August: The month closed with 59 dry days since the last general rain. The two showers in August were local.

Lubbock.—August: The drought continues and crop conditions decreased steadily during the month.

Marathon.—August: Fairly good rains in most sections of the county have been a great help to grass. Gardens in some places are good without irrigation; not so good in others.

Paducah.—August: Owing to the light rainfall in July and August, crops are almost a failure. Grass is dead and crops are badly scorched.

Plemons.—August: The dry weather and hot winds have destroyed crops in this community. The grass is very short and stock of all kinds is suffering.

Tulia.—August: Crops are in bad shape and but little grain will be raised.

Winfield.—All late crops have suffered for water, especially cotton and sugar cane.

CONDITIONS ATTENDING THE PERIOD OF HIGH TEMPERATURE AND DROUGHT IN THE VICINITY OF ABILENE, TEX., DURING THE SUMMER OF 1913.

By W. H. GREEN, Observer.

The present drought, so far as its effects upon the staple crops of the State are concerned, is, in the opinion of several reliable men who have been all over the country, the most severe of any drought in this vicinity since the establishment of the Weather Bureau station in Abilene.

The following, according to the Weather Bureau records, are the most noted droughts of this vicinity: May 31 to August 31, inclusive, 1901, total rainfall 1.09 inches; May 20 to July 13, inclusive, 1910, total rainfall 1.09 inches; May 1 to July 12, inclusive, 1911, total rainfall 0.32 inches; June 19 to July 31, inclusive, 1912, total rainfall 0.30 inches; June 29 to September 9, inclusive, 1913, total rainfall 1.29 inches.

It will be noted from the above that the rainfall has been less, for the same length of time, during the growing season of some other years than during the present year; but the drought during the present year began from 3 to 6 weeks later than usual and yet early enough to seriously damage all staple crops, and so far, September 10, it has lasted from 10 to 20 days later than usual, so that late or fall crops will be almost total failures.

It is estimated by parties believed to be qualified to make such estimates, that the small grain crop, wheat, oats, etc., was about 65 per cent below the average or normal, the feed crop about 50 per cent below the normal, and that the cotton crop will be about 65 per cent below the normal.

The water supply in this section is perhaps more plentiful than during some former droughts, due to the fact that the people have better prepared themselves for such conditions by installing surface tanks, etc. I am informed that there are but few farmers who have not a reasonably plentiful supply of stock water, and that no one in this vicinity is having to drive stock any great distance to water.

The heat has not been especially severe during the present drought, although with a few exceptions moderately high temperatures have obtained since the 1st of July. On July 26 the mean temperature was 9° below the normal, and there have been seven other days since the 1st of July when the temperature was slightly below the normal.

NOTES ON THE HEAT AND DROUGHT OF 1913 AT FORT WORTH, TEX.

By D. S. LANDIS, Local Forecaster.

At Fort Worth, Tex., no rain in excess of a trace occurred during the period from July 28 to September 6, a period of 40 days. During the same time the maximum temperature was above 90° each day, and on 8 days it was 100° or over. The highest temperature reached was 104° on September 5, being the highest September temperature on record at this station.

Effects.—The staple product, cotton, was depreciated to one-half a crop as compared with 1912, and all other products suffered at least half depletion and more in many instances, dependent upon soil and position. Water in all places showed a comparatively lower level than had been noted in any previous record on file. Wells that had never failed before were reported almost waterless, and stock suffered much, having to be driven once a day several miles for water. Grass is dried and powdery, and stock are existing on the short hay incident to this region when subjected to drought, thus promising losses during the coming winter in connection with a prospective continued shortage in water. Corn failed entirely, and gardens were short lived and less than half in productions. The loss in trees and shrubbery is heavy, probably 25 per cent being ruined.

While 1913 had a severer drought than usual, it also suffered from the cumulative effect of deficient rainfall, as the soil has not been thoroughly wetted deep down since 1908, the intervening years being very dry, with the exception of 1912, which was a surface-season year in general.

The mean temperature for 1913, July and August, was not unusual, it being exceeded in the years 1896, 1897, 1899, and 1902.

Drought comparisons show that 1913 had 40 days with only a trace of rain, while 1899 had but a trace from July 26 to September 16, a period of 52 days. The year 1909 had a drought of 43 days, lasting from June 26 to August 8, with but 0.03 precipitation.

Since the drought of 1913 was cumulative, it was the severest on record in its effect upon growing crops and otherwise. Agricultural products are not more than one-half the usual; an unprecedented scarcity of water both for stock and man exists; and there is such a paucity of winter roughness for stock that the loss of life must be immense, since the animals are now poor and water starved. Suffering from great heat was not of importance, since the lack of humidity, and brisk winds at night most of the time permitted more comfort and rest than under damper conditions and less wind movement. The uppermost problem at this writing, September 9, is water for both man and beast.

DROUGHT OF 1913 IN EASTERN TEXAS.

By WALTER B. HARE, Observer, Palestine, Tex.

The drought of the present summer season in eastern Texas was one of the most prolonged, as well as one of the most disastrous, in the climatological history of this section.

During the months of January, February, March, and April the precipitation averaged only slightly below the normal, being 0.42 inch below the normal in January, 0.18 inch in excess of the normal in February, 0.78 inch below in March, and 0.78 inch below in April. Good, soaking rains occurred on March 9, March 12–13, April 3, April 8–9, and April 22. The spring showers acted directly on the young cotton plants, producing a copious supply of sap and noticeably advancing the plant growth. The month of May was also favorable up to the 22d, beneficial showers falling on the 4th–5th, the 15th–16th, and the 20th. The total rainfall for May was 2.83 inches, or 2.06 inches below the normal.

On May 22 the first dry period of the season set in and lasted until June 9—18 days. A fairly good rain, 0.78 inch, occurred on June 9, but this shower continued for only three hours and was by no means the slow, long-continued, copious rain needed at this critical stage of cotton-plant growth. Other light, short showers occurred during the month, and half an inch fell on June 28, but again the shower was of short duration and was rapidly dissipated as surface water.

On July 2, 0.68 inch of rain fell in two showers. This rainfall was slow and steady and probably most of the water penetrated the soil for a few inches, but a rainfall of 0.68 inch was totally inadequate to materially assist a semisandy soil that had been without sufficient moisture since May 20, or for 42 days. Following these showers of July 2 the long drought set in and continued until September 12–13, when a slow, steady rain of over 3 inches relieved the condition. The entire period from May 21 to September 12, 114 days, may be characterized as abnormally dry. The total amount of precipitation for June was 1.51 inches, or 2.44 inches below the normal; for July 0.71 inch, or 2.29 inches below the normal, and in August only 0.23 inch of rain fell. This small amount of rain was 1.99 inches below the August normal, and at the end of August there was an accumulated deficiency since January 1 of 10.63 inches. From May 1 to September 1, the cotton-growing period, the total amount of rainfall at Palestine was 7.80 inches less than the average rainfall for the same period, this being the greatest deficiency during the cotton-growing season since the establishment of the local office of the United States Weather Bureau in 1881.

OTHER METEOROLOGICAL CONDITIONS IN 1913.

Concomitant with the lack of sufficient moisture appears an abnormally high percentage of sunshine and a correspondingly large number of clear days. In April there were 21 clear days, 6 partly cloudy and 3 cloudy days; in May 22 clear, 7 partly cloudy and 2 cloudy; in June 17 clear, 11 partly cloudy, and 2 cloudy; in July 24 clear, 7 partly, and no cloudy; and in August 19 clear, 12 partly cloudy, and again not a single cloudy day. The prevailing winds were from the warm regions of Mexico and from the Gulf of Mexico. Their velocity was less than normal, and cool, bracing winds from the northwest were entirely absent. The intense afternoon heat of the summer months was also an important factor contributing to the damage of the cotton crop. The plant, so well developed by the spring rains, not only lacked sustenance from the soil on account of absence of moisture, but was further desiccated by the abnormally hot rays of the sun. In June a maximum temperature of 90° or above occurred on 11 days, in July on 28 days, and in August on 30 days.

RESULTING EFFECTS.

The cotton crop for 1913 is conservatively estimated at scarcely two-thirds of an average crop, and the sugarcane crop at probably one-half an average crop. Corn is about the average, and the good soaking rains of September 12–13 will materially assist the fall farm products. The water in the reservoirs at Palestine has been at the lowest stage ever known. During the first decade in September the entire supply was discontinued for many hours, and for several days only a very slight stream of muddy water was obtainable, and that only on the ground floors of both residential and business districts, leaving the second-floor baths and toilets without any water at all for four days. Similar conditions are reported from other towns in east Texas, but the heavy rains of September 12–13 alleviated further danger of a water famine.

The loss from the cotton crop in Anderson County will be the heaviest ever known, and is conservatively estimated at over $75,000 in this county alone.

The drought in 1913 produced an early season for cotton, the first bale being ginned August 7. In 1912 the first bale was ginned August 16. The Palestine Ice, Fuel & Gin Co., the largest ginning company in Anderson County, have ginned 148 bales of cotton up to September 1, 1913. In 1912 they ginned only 86 bales up to September 1, but the president of the company, Mr. W. L. Welborne, states that the 1913 cotton crop will fall behind the 1912 crop by 33⅓ per cent in spite of a 10 per cent increase in acreage. The decrease will be due to a total lack of late cotton, known as "top crop," as the late plants were entirely destroyed by the heat and drought.

HEAT AND DROUGHT IN SOUTH DAKOTA DURING THE SUMMER OF 1913.

By S. W. GLENN, Section Director.

The heat wave which affected the more southerly States did not prevail in this vicinity until the latter part of August and the first week in September, more especially during the latter period, but there were several periods of three or four days in August with maximum temperatures of 90° or slightly higher.

While there was some quite warm weather in July and August, it was not on the whole more severe than has occurred in some other years. The current September, however, 1st to 6th, is the only September since the opening of the station in which an extended hot period has prevailed. From the 1st to 6th, inclusive, with a break of only two days, maximum temperatures of 100° or higher occurred. From August 10 to 18, there was an average daily excess in mean temperature of 8.1°, from August 25 to 31 an average daily excess of 6.6°, and from September 1 to 6, inclusive, the average daily excess was 15.6°.

August of this year gave the highest mean temperature of any August since the Huron station was opened, except in 1900 and 1909. In some former years hot winds have occurred several times in a season; this year there were four days in September when the winds could be called hot, but there were no others.

Whatever injury was sustained by small grains in this vicinity was largely due to a pronounced deficiency in rainfall in June. The season started out well with a good supply of moisture at the end of May, but June gave about 2.70 inches less than the normal, and at the end of the month there was no excess of moisture in the soil for plant life to draw from. Rains in July were very beneficial for corn, which generally did well up to the latter part of August, and for other late crops. Corn was adversely affected by the heat wave, according to the reports of some persons, while some others report no material damage. The effect of the heat wave was to absorb the moisture of the foliage, while the absence of good rains, and deficient soil moisture, aided in the process.

When the heat wave started in, small grains were being harvested, and corn was far advanced toward maturity, but the dry heat hastened its ripening, and doubtless this crop was hurt by the weather conditions, forcing it to early maturity, but how much it was damaged is hard to determine as yet.

As compared with other years, this vicinity, as well as the State, has on the whole experienced more unfavorable crop seasons several times, in my judgment and that of others competent to give an opinion.

In this vicinity there was practically no scarcity of water for either live stock or domestic purposes, as artesian wells are numerous and in many cases tend to feed small watercourses, and other wells are generally deep. The streams are low.

During the heat wave dry weather predominated, except that a generous rain fell on August 17. On September 7 more seasonable temperature set in and continued until this writing, September 15. By this date small grains were mostly in the bin or granary, and corn and other late crops were practically all either matured or nearly so, except late vine crops.

The temperature conditions during the heat wave, while causing considerable discomfort, resulted in no material increase in mortality in either human or animal life, so far as appears. During the heated period in September there was no decidedly great discomfort if one was in a breeze, the heat being dry, and the nights, comparatively cool, gave relief.

FOR THE STATE.

The conditions for the State as a whole were similar to the local conditions, except that the southeastern and extreme eastern counties were favored with more rain. Most of the northern and western counties were more affected by dry weather than other parts. In the western counties, excepting the Black Hills, there is nearly always warmer weather than elsewhere in the State.

DROUGHT AND HEAT WAVE OF THE SUMMER OF 1913 IN KENTUCKY.

By FERDINAND J. WALZ, Professor of Meteorology.

The shortage in rainfall together with the intense heat which prevailed so largely during the summer and crop-growing months of 1913 resulted in one of the most severe, far-reaching, and destructive droughts experienced in this section during the past quarter of a century. In heat the season is comparable only to that of 1901, and in dryness to the seasons of 1894 and 1904. In the combination of both heat and dryness for so long a time the season of 1913 has no equal in the records of the past 25 years.

Deficiency in rainfall began with the month of April and continued through the months of May, June, July, and August, and the first decade of September. The average aggregate rainfall for the months April to August, inclusive, for the State of Kentucky as a whole was 13.87 inches, or a deficiency of nearly 5.50 inches. The year having the next smallest amount for these months is 1894, with 14.8 inches. In 1904 the amount was 15.06 inches. In 1901 rainfall was deficient up to the month of August, the driest month being July, which is also the hottest month of record in this section, but in August of that year there was ample rainfall over the greater portion of the State, the droughty conditions continuing only in the north border counties. In 1895 rainfall was decidedly deficient during the crop-growing months except July, when generous rains occurred which not only terminated the drought but gave a sufficient excess of moisture to tide over the deficiency of August and September. In 1889, another dry year, the rainfall was plentiful in May, June, and July, the dry months occurring in the early part of the year and after July.

The drought of the current year was most severe in the western part of the State, where in many of the counties the total rainfall for the five months ranged between 7 and 12 inches, a deficiency of 9 to 13 inches. The drought was felt least in the central portion of the State and over sections on the western border of the mountain region, the rainfall in these sections ranging between 11 and 20 inches, a deficiency of 1 to 7 inches. At Middlesboro, in the extreme southeastern part of the State, the rainfall of this period was 12.4 inches, which shows a deficiency of 10 inches, but the normal in that section is large.

At Louisville, Ky., from April 1 to September 10, 1913, the total rainfall was 11.4 inches, or 8.6 inches below the normal for that period. The driest year, however, at Louisville since the records began in 1871 was 1904. From April 1 to September 10, inclusive, of that year the total rainfall was 10.7 inches, and the deficiency was much greater in October and November, the total rainfall for these two months being only 0.52 inch. Other dry years were: 1881 with a rainfall of 11.92 inches; 1894, 17.85 inches; and 1901, 15.0 inches in the period under discussion. In 1881 only 0.15 inch fell during the month of August.

The intense heat began the 16th of June and continued with few interruptions until September 8. The longest interruption in this heat wave was from July 19 to 26, inclusive. During these 12 weeks the temperature was above normal at Louisville and Lexington on 63 days. The temperature was 90° or above at Lexington on 40, and at Louisville on 55 of these days, and it was 100° or above at Louisville on 5 days.

In 1894 and 1901 the temperature was 90° or above at Louisville on 52 and 48 days, respectively, for a like period. At Louisville the temperature was above normal on 66 days in 1901 and on 41 days in 1904. In 1901 the temperature was 90° or above on 48 days and 100° or above on 7 days at Louisville, and the average maximum temperature for the month of July was 95.2. In 1904 the temperature did not reach 100° and was 90° or above on only 24 days.

Considering the State as a whole and the duration, the hot wave of this year exceeds that of any year on record. The hot weather of 1901 occurred mostly in the month of July, while this year it extended through practically 12 weeks.

The following statements relative to the effect of the drought and hot weather upon crops, water supply, etc., are gathered from the September crop report of the commissioner of agriculture for the State of Kentucky, from personal correspondence with him, interviews with persons who have been over the State, newspaper reports, and general hearsay. In the main, reports from all these sources agree that all crops, except wheat, oats, and early hay suffered severely from heat and lack of moisture, yet the reports as to the extent of the damage vary so considerably that anything like a true estimate at present of the amount of damage inflicted on the several crops is impossible.

The wheat, which is harvested in the latter part of June or the first part of July, was a very good crop and of unusually good quality, the weather being ideal at time of harvest. The oats crop was also good. Corn and tobacco will hardly make an average half crop, and abundant rains now, September 13, would not help these crops, as they are, for the most part, in the curing period,

their condition being much advanced by the hot, dry weather. The early hay crop was good, but there has been practically no late crop of hay. Alfalfa is about one-half crop, cow peas and soy beans about two-thirds of a crop, and spring-sown clover and bluegrass about 60 per cent of a crop. Pastures were completely burned up, and live stock suffered materially on account of short pastures and scarcity of water. The fruit crop was small and gardens were practically a failure, there being hardly any tomatoes, beans, peas, or sweet corn. The onion crop is unusually short and potatoes are practically a failure. A farmer who has 8 acres in late potatoes in the vicinity of Louisville, and who follows the most modern methods of farming, states that he has hardly a potato in his entire 8 acres. There were practically no early potatoes, and this is classed among the potato-growing sections.

There was no water at all in many small streams, and wells and springs that were never known to fail before have gone dry. Water for stock is a serious problem in many localities, and many fires have occurred as a result of the dry weather. A match dropped in a pasture is likely to cause a disastrous fire. The water supply of many towns has given out, and in some counties the situation is so severe that groundhogs, squirrels, and quail have been forced to come to the vicinity of farmhouses for water. In one section hundreds of snakes were seen crawling around in an apparently dazed condition, famishing for water.

Reports from several sections in the burley tobacco district state that about one-half of the tobacco has now been cut and the crop is much shorter than the lowest estimates had placed it.

Mr. J. W. Newman, commissioner of agriculture for the State of Kentucky, says:

> My crop reporters have sent in a good deal of scattered information about the effects of the drought in different parts of the State. Summarizing these, together with my personal observations: The drought has extended from the Mississippi to the eastern borders of Kentucky, gradually growing less severe as the mountains are approached. There has been an occasional streak throughout the State that has had local showers which have saved the crops more or less in the limited area. It appears that the lack of moisture has not done so much damage as the excessive heat. The pollen of the corn seems to have been rendered more or less infertile. Many of the apparent ears of corn are nothing but cobs, showing a lack of fertilization. Reports come to this office that many ears of corn have a dry rot that is going to injure very materially the partial crop that has been made. Stock has suffered for water but has not been bothered as much as usual by flies. The dry weather seems to have prevented the hatching of insects that depend on decaying vegetation as a means of producing life. Typhoid fever has been reported in many sections, attributed to the stagnant supply of water. Fires have been reported as being numerous as a result of the dry conditions of the pastures. The excessive heat has rendered work on the farm very difficult. Horses have been unable to do more than a half-day's work on many days, and day laborers have been unable to withstand the heat and do a full day's work.

The cool, dry weather which largely prevailed during the months of April and May and in early June was detrimental to the crops, the effect being to retard the germination of seed and the early growth and development of the plants.

Beginning with the excessive rains and floods of January and the extraordinary rains and the severer floods of March, the deficiency in rainfall during the crop-growing season, from April 1 to date, the unseasonably cool weather of April, May, and early June, and the excessive heat from the middle of June to date, September 13, have made 1913, so far, one of the most disastrous seasons in recent years.

THE DROUGHT OF 1913 IN TENNESSEE.

By ROSCOE NUNN, Section Director.

Beginning about the middle of June, temperatures were almost steadily above normal for nearly three months, or until September 12, there being only 16 days during this time with mean temperature at Nashville normal or lower, and such breaks in the heat as came were of unusually short duration.

The afternoon temperatures especially were high, the records showing 69 days from June 1 to September 10, inclusive, with maximum temperatures 90° or above. This is the greatest number of such days on record at Nashville for the corresponding period, as only one other year, 1881 with 68 such days, approaches it in this respect.

The year 1901 had a very warm July, but the summer as a whole was not as warm as 1913, and the drought in 1901 was comparatively short.

For the summer as a whole, mean temperatures have been as follows for the hottest summers: In 1874, 81.6°; 1881, 81.0°; 1913, 79.8°. The present summer therefore has not been the hottest on record, nor does any month of the three, June, July, and August, show a higher mean maximum or mean minimum than any previous corresponding month. But 1913 is one of three hottest summers, considering the record in its various arrangements. For night temperatures, the summer of 1913 takes about the sixth place, considering the summer as a whole, for the average was highest in 1874, second highest in 1900, third in 1881, fourth in 1889, and fifth in 1901. For continued high-day temperatures, however, the summer of 1913 has not been surpassed, although the extreme record for no month was broken until September 3, when the record was a fraction of a degree higher than ever before registered for September. This hot spell has been especially characterized by its persistence, the periods of cloudiness or of falling temperature being few and brief. The percentage of bright sunshine was greater than in any previous summer since instrumental records of sunshine began.

The total rainfall for the three months, June, July, and August, is the lowest on record for Nashville; but the corresponding period of 1907 had almost as light, while 1881 and 1902 are the next driest, in order. The total rainfall for June, July, and August in the years mentioned was as follows: In 1913, 5.84 inches; 1907, 6.00 inches; 1881, 6.37 inches; 1902, 7.35 inches.

The drought of 1913 was pretty well broken at Nashville during the first half of July, but during the last half of July and all of August it was very persistent. For the three months there were only 17 days with measurable rainfall, while the other years of drought show from 20 to 33 such days. In this respect 1913 was quite different from 1907, next to 1913 the driest summer, which had 28 days with measurable rainfall.

EFFECT UPON CROPS, ETC.

Notwithstanding the droughty conditions in the State, there were showers in various sections, and some localities suffered much less than others, the local character of the rainfall being frequently remarked upon, and some sections seemed not to suffer much from drought until about the middle of August. During the last half of August and the first 10 days of September the drought increased in severity and became quite general over the State.

The damage to corn was probably about 40 per cent, to early corn not so much, but to late planted 40 to 60

per cent. In some localities late corn is almost a complete failure, although the damage is not so great in the western counties as in most of the middle and eastern portions. Cotton did not suffer much until about the middle of August. It is now, September 17, damaged probably 10 to 15 per cent by drought. Tobacco plants are small in many fields and the leaves are badly burned. Peanuts will probably not make more than a fourth of a crop, as the drought came at a critical time for them. Late cuttings of hay will amount to little, and pastures are dried up almost everywhere except in favored spots. Plowing for fall crops has, of course, been delayed and farm work seriously affected thereby.

The water supply is giving out in many localities, and in a few places it is reported scarcer than ever known before. But over most of the State there has been only inconvenience, not actual suffering, on account of lack of water, as many springs and streams have been available where wells gave out. Many hogs and cattle are being sold at great disadvantage on account of dried-up pastures and scarcity of feed.

It is not believed that the drought of 1913 is unsurpassed in its damaging effects upon crops, but it is among the worst in the last 30 years. June was very favorable for cultivation and the first half of July received rains which prevented serious damage to corn until about the 1st of August, by which time a good portion of the corn had fairly matured. Cotton was fine until the middle of August. Late crops of all kinds were very seriously damaged.

DROUGHT AND HEATED PERIOD OF 1913 IN ILLINOIS.

By H. M. WILLS, Acting Section Director, Springfield, Ill.

A careful study of the climatological records of Illinois reveals the following facts in connection with the heat wave and drought of the summer of 1913: The summer mean temperature is the highest on record in Springfield and the State mean is the highest on record for the State, with the single exception of the year 1901, which was but a fraction of a degree above this season's record. The maximum temperature during the period was the highest on record for Springfield, except the year 1901, and the State maximum was the highest, except 1901 and the year 1911, when the record was equaled. Both Springfield and State records for number of days with 90° or over are without precedent, except that 1901 exceeded this year's record for 100° or over, in Springfield. That was one of the prominent features of the heat wave of 1913, the daily temperatures remaining high during long periods and in many instances without much relief at night.

The Springfield total precipitation for June, July, and August, 1913, is the least on record since 1908, with but three other years showing smaller amounts, while the State total is the lowest since 1894, and there were but three other years with lower records than 1913. The large deficiency of this season's fall as compared with the average during the last 36 years is noteworthy.

Special features of the drought and heat wave are brought out in more or less detail in the following description:

Deficiency in rainfall and abnormally high temperatures began early in May in many sections of the central and south portions of the State and in several cases date back to the middle of April. The May totals were 2 to 4 inches below normal over the south two-thirds of the State, while the falls were equally excessive over the north one-third. High maxima occurred, breaking records for May in some counties. The drought was becoming serious at the close of the month, affecting vegetation materially.

It continued dry and warm through the first two decades of June, with crops suffering from the drought. Oats began heading very short, due to the stunted condition from the drought; corn did not germinate, and pastures were short, but the situation was somewhat relieved in sections by beneficial rains from the 21st to 25th of the month. The monthly total was the lowest on record for June in the extreme south. Maximum temperatures were high from the 15th to 21st breaking June records in many counties of the central and south portions. The last few days were very hot, the temperature reaching or exceeding 100°. The temperature at Springfield continued above normal through the entire month, except from the 7th to 12th. Eight fatal prostrations were reported in the State (excluding Chicago), and no doubt a much greater number occurred that were not reported to us. A great number of horses died, and miners were reported to have quit work on account of the heat.

The same droughty conditions continued through the greater part of July becoming most serious over the west-central and east-central portions. Although generous rains fell over limited portions of the northwest and the extreme southwest, the major part of the State received little rain, and least July records were broken in many localities (Peoria dating back to 1856), and the absolute minimum for any month was recorded at La Harpe and Monmouth. Most rains were of the thundershower type and covered limited areas. Lack of rain in the north third was not felt much until the latter part of the month on account of the abundant rains of May and June, but the south two-thirds suffered greatly. Reporters stated that wells were going dry and springs and streams that had never been known to go dry were without water; and dust in country roads was apparently bottomless. Water hauling by railroads and stock raisers and others was a frequent occurrence; ground became parched and crops suffered greatly from the severe drought; vegetation turned yellow and much of it withered; and corn began firing badly during the latter part of the month. The temperature reached the high mark of the season, 108° near the middle or end of the month. One observer recorded the highest on record for the station. There were a large number of heat prostrations in the State, and one observer reported horses dying in his vicinity at the rate of one a day during harvest.

In the August reports the observers continued to mention the effects of the hot dry weather on vegetation, but the drought was partially relieved in many counties during the first half of the month, while in other sections the situation was not relieved until the middle of September, and in a few localities observers report the continuance of the drought at the present writing (September 27). The greatest deficiencies in the August rainfall occurred in the south and west-central portions, while the fall was excessive over the extreme northwest. The least August records were broken in many localities. The north fourth of the State was fairly well watered while no county in central or southern Illinois had sufficient rains up to the end of August. The maximum temperature was near or above 100° throughout the greater part of the month and at Springfield there were but two days below normal. Previous high temperature records were equaled or exceeded at 22 stations.

Briefly summing up the above, the drought of 1913, which began in May over central and southern Illinois, continued to grow worse until the third decade of June, when it was somewhat relieved by generous rains in some sections but continuing in other sections until the fore part of August, when beneficial rains fell in many localities, while in still others it continued almost unabated until the middle of September. During the latter part of September good rains appear to have completely broken the drought in almost every section of the State.

The following statement, which shows in percentage the extent to which the drought and heat wave damaged the staple crops of the State, has been assembled from estimates received from cooperative observers on September 24: Corn damaged, 44 per cent; wheat damaged, 4 per cent; oats damaged, 61 per cent; hay damaged, 39 per cent; apples damaged, 32 per cent; pears damaged, 26 per cent; peaches damaged, 21 per cent; potatoes damaged, 65 per cent; sweet potatoes damaged, 58 per cent; Tomatoes damaged, 52 per cent; beans damaged, 54 per cent.

DROUGHT AND HEAT WAVE OF 1913 IN INDIANA.

By VERNE H. CHURCH, Section Director.

The drought and heat wave which prevailed over many States in the Middle West, and was noteworthy for its length and severity, extended into Indiana from the southwest and covered from one-third to two-fifths of the State. The extreme southwestern counties and a narrow strip along the west side of the State as far north as Terre Haute suffered the most severely, because of a deficiency of moisture as early as the month of April, whereas the remainder of the drought area received more than the normal amount of precipitation in April, thereby shortening the dry season in those sections by a month or more, and affording ample moisture at a time when it was most essential for the germination of spring crops. Some of the stations farther east and north received an excess of rain in July and August, which practically terminated or at least greatly relieved the droughty conditions in those districts.

The rainfall during the months of April to August, inclusive, consisted mainly of local showers. These occurred in many cases over comparatively small areas, causing the line of demarcation between dry and moist areas to be sharply drawn. Prof. E. E. Ramsey, cooperative observer at Bloomington, says:

> The rains have been local in an abnormal degree. Distances of 200 feet are sufficient to separate areas of good showers from areas receiving no rain. The east side of Monroe County has had rain sufficient for all purposes during the entire summer. In this narrow belt, which extends into Brown County, the crops are above average.

Many of the local showers were extremely heavy, which materially lessened the deficiency in rainfall but failed to benefit crops in proportion to the measured quantity which fell, because of excessive run-off and diminished absorption due to the unusual density and hardness of the soil.

From April to August, inclusive, the deficiency in precipitation over the drought area ranged from 3 to slightly more than 10 inches. The portions of the State where the deficiency was less than 3 inches suffered little more during the driest periods than in the average summer season. In the driest districts, however, the drought was said to have been the severest since 1881, which was prior to the establishment of a cooperative meteorological service, hence no records for that year are available for comparison.

The destructiveness of the drought was greatly augmented by the prevalence of unseasonably hot weather from about the middle of June to the latter part of August. The mean temperature for the State was above normal for each of the months under discussion, and the temperatures at individual stations universally exceeded the seasonal average during June, July, and August. The hottest period of the summer prevailed from June 15 to July 5, inclusive. During this time maximum temperatures of 90° or above were recorded on practically every day at nearly all stations, and temperatures of 100° or above were reached at most stations in the drought district on one or more days.

Probably the hottest previous summer on record was was that of 1901. However, the conditions were very different in that year. April and May, 1901, were deficient in temperature, whereas in 1913 there was a slight excess; June experienced practically the same temperature in the two years; July, 1901, was extremely hot, while August of that year was cooler than August, 1913. Therefore the hot summer of 1901 can be attributed chiefly to the abnormally hot weather in July of that year. The hot weather of that summer was more uniformly distributed over the State. In that year there were 13 stations with an average of 7 more days with a temperature of 90°, or above, than in 1913. Those stations were all in the north half of the State, except two. The two in the southern half had an excess of only one day each. On the other hand, there were 21 stations having an average of 14 more days with like temperatures in 1913 than in 1901, these stations all being situated in the southern half and extreme western part of the northern half of the State. Therefore it may be stated that the portion of the State under discussion experienced a hotter summer, as a whole, in the current year than in any other year for which records are available.

Hot winds also played an important part in increasing the intensity of the drought, especially during the hot spell in June, and damage to fruit from this cause was also observed in August. Reports have also been received of the loss of some fruit and forest trees from the same cause. In the vicinity of Mount Vernon, where 600,000 pounds of pecans were grown last year, the report is current that the crop is an entire failure this year.

Reports from various sources indicate that the damage to the wheat crop by drought was almost negligible, but all other crops suffered severely. Oats in most cases were too short and too light to be cut with a binder. Hay was extremely short and light. Early potatoes were a complete failure, and late potatoes give promise of only a very light crop. The tobacco crop is very light, and gardens were mostly failures. The tomato crop will not exceed 50 per cent of a normal yield. Corn suffered severely, but will be a better crop than any of the others except wheat, especially on bottom lands.

The water supply was greatly affected. Many wells and small streams became dry, and farmers were compelled to haul water considerable distances from rivers or other sources. A canning factory at Underwood and a power plant at Charlestown were kept in operation by hauling water from Jeffersonville in tank cars. The Baltimore & Ohio Southwestern Railroad Co. was compelled to run a water train from Jeffersonville for several weeks. Live stock suffered much from the scarcity of water, as it was necessary to haul water to them or drive them long distances. This extreme condition was confined to small localities however.

Because of the length of the heat wave, mankind suffered considerably, but the prevailing dry weather and consequent low percentage of humidity prevented an unusual number of heat prostrations. In fact, so far as can be learned, the number was less than in an average summer.

The droughty conditions extended up to about the middle of September, since which time general rains have materially improved pastures and ground under preparation for wheat seeding, but the moisture arrived too late to be of much value to crops.

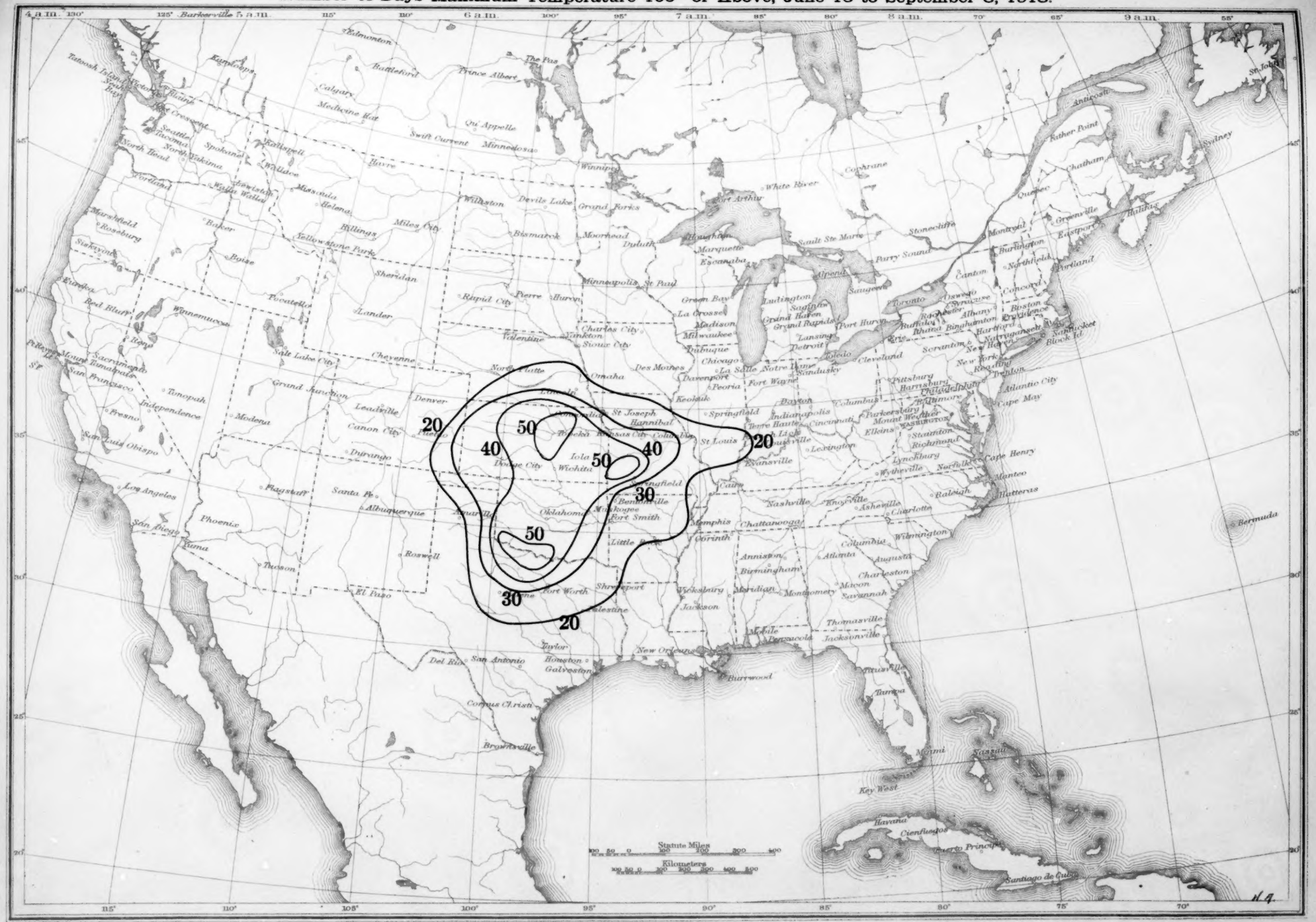
Summarizing the information at hand, it is believed that, in the section of the State to which these remarks apply, the dry and hot weather of 1913 continued over a greater number of days than in any year in the history of the weather service of the State, with the possible exception of the summer of 1881, a year to which reference is made by several observers.

Average Departure of the Daily Mean Temperature from the Normal, June 16 to September 8, 1913.

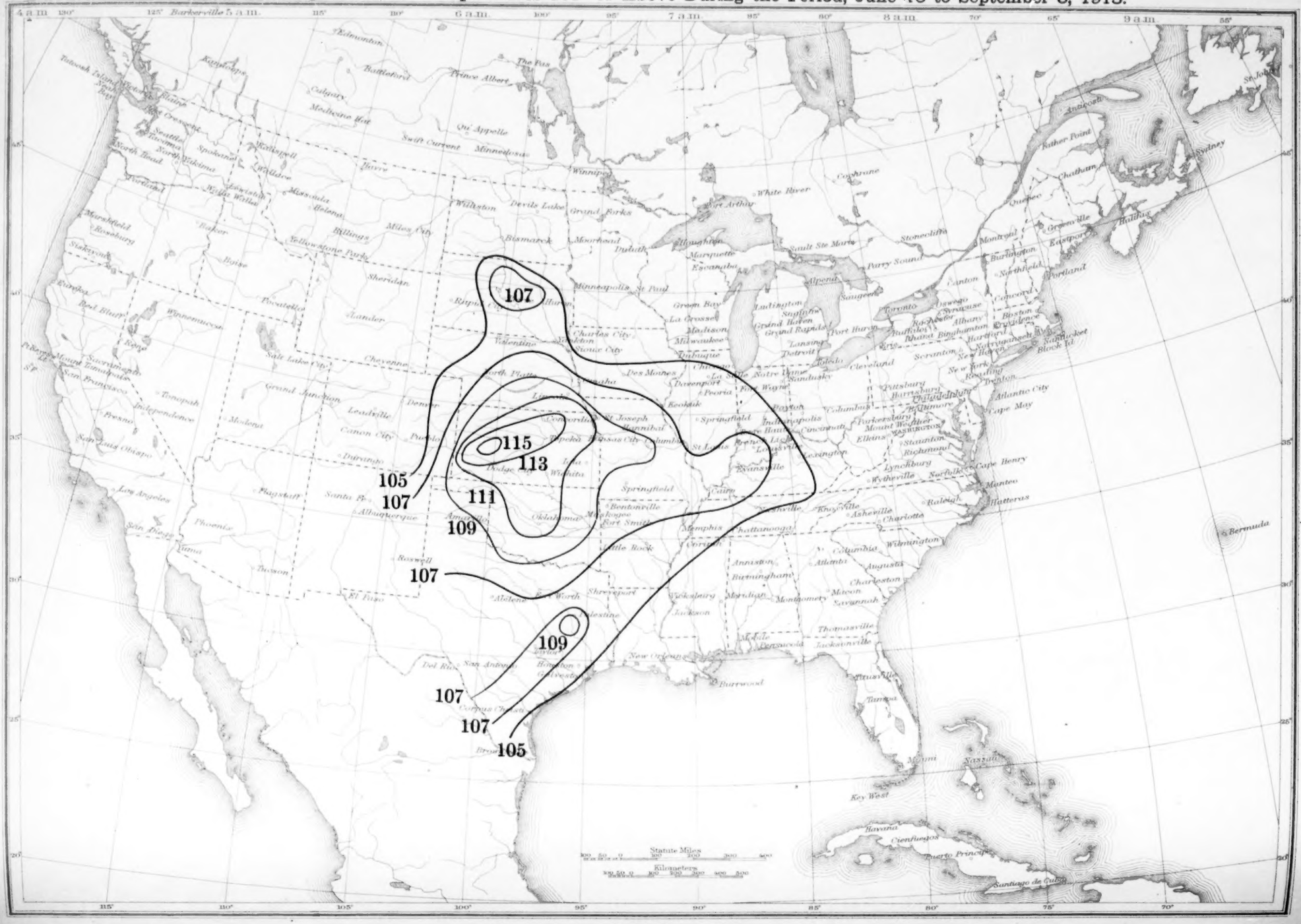
Percentage of Normal Precipitation for Period, June 16 to September 8, 1913.

Number of Days Maximum Temperature 100° or Above, June 16 to September 8, 1913.

Number of Days Maximum Temperature 100° or Above, June 16 to September 8, 1913.



Area Showing Maximum Temperatures 105° or Above During the Period, June 16 to September 8, 1913.



CONDENSED CLIMATOLOGICAL SUMMARY.

In the following table are given for the various sections of the climatological service of the Weather Bureau the average temperature and rainfall, the stations reporting the highest and lowest temperatures with dates of occurrence, the stations reporting the greatest and least monthly precipitation, and other data, as indicated by the several headings.

The mean temperature for each section, the highest and lowest temperatures, the average precipitation, and the greatest and least monthly amounts are found by using all trustworthy records available.

The mean departures from normal temperatures and precipitation are based only on records from stations that have 10 or more years of observations. Of course the number of such records is smaller than the total number of stations.

CONDENSED CLIMATOLOGICAL SUMMARY OF TEMPERATURE AND PRECIPITATION, BY SECTIONS, SEPTEMBER, 1913.

Section.	Temperature, in degrees Fahrenheit.								Precipitation, in inches and hundredths.					
	Section average.	Departure from the normal.	Monthly extremes.						Section average.	Departure from the normal.	Greatest monthly.		Least monthly.	
			Station.	Highest.	Date.	Station.	Lowest.	Date.			Station.	Amount.	Station.	Amount.
Alabama	73.1	−2.2	Florence	103	3	Riverton	34	22	6.96	+ 3.90	Daphne	23.46	Alaga	1.07
Arizona	71.9	−1.3	Mohawk	116	20	Flagstaff	19	27	0.99	− 0.31	Alpine	3.65	3 stations	0.00
Arkansas	71.7	−1.6	Bee Branch	108	4	Dutton	33	21	10.10	+ 6.38	El Dorado	17.84	Fayetteville	3.78
California	70.7	+2.2	Dudley	116	18	Greenville	16	24†	0.07	− 0.42	Weitchpec	1.37	133 stations	0.00
Colorado	54.3	−2.9	Lamar	100	1	Silverton (near)	6	24	2.09	+ 0.65	Spruce Lodge	5.51	Hamps	0.41
Florida	78.0	−1.1	3 stations	98	3†	Garniers (near)	41	23	5.69	− 1.42	Apalachicola	22.87	Sanford	1.78
Georgia	72.3	−2.5	2 stations	97	3	2 stations	36	22	4.12	+ 0.43	Elberton	7.84	Glennville	0.77
Hawaii [for August]	75.7	.....	Mahukona	94	12†	Humuula	40	13†	5.35	.....	Honomau	17.15	Waiawa	0.25
Idaho	58.1	+0.1	Indian Cove	100	2	Pierson	11	24	0.82	− 0.06	Kilgore	5.00	Sunnyside	T.
Illinois	66.9	−0.1	Equality	109	3	3 stations	29	22†	2.92	+ 0.58	Hillsboro	7.22	Morris	0.81
Indiana	66.2	−0.6	Rome	106	2	Salamonia	26	23	2.86	− 0.04	Huntingburg	7.27	Whiting	1.14
Iowa	64.4	+0.7	Bedford	107	3	Rock Rapids	19	23	3.31	− 0.10	Clarinda	7.44	Rock Rapids	0.45
Kansas	67.8	−1.3	Sedan	109	5	Blakeman	24	26	3.89	+ 1.13	Coldwater	7.47	Wallace	1.40
Kentucky	69.7	−0.3	Earlington	106	1	Farmers	29	23	2.52	− 0.43	Irvington	4.57	High Bridge	1.27
Louisiana	75.5	−2.2	Plain Dealing	104	4	2 stations	36	21†	13.39	+10.18	Abbeville	24.02	Clinton	4.66
Maryland & Delaware	66.8	−0.7	Westernport	102	6	Deer Park	22	23	2.83	− 0.57	Frostburg	5.31	Lake Montebello	1.32
Michigan	59.9	−0.3	Adrian	104	2	2 stations	24	12†	2.38	− 0.68	Iron River	6.09	Charlotte	0.68
Minnesota	58.6	+0.5	Tracy	102	5	Roseau	12	22	3.33	+ 0.48	Pine River Dam	6.35	Two Harbors	0.96
Mississippi	74.2	−1.3	Agr. College	103	3	Moorhead	38	22	8.02	+ 4.89	Bay St. Louis	17.96	2 stations	3.82
Missouri	69.4	+0.5	Steffenville	109	4	2 stations	27	22	4.63	+ 0.79	Fruit City	10.82	Gorin	1.26
Montana	56.4	+0.3	3 stations	100	5	Bowen	6	24	1.04	− 0.31	Graham	3.06	Cut Bank	T.
Nebraska	64.0	+0.4	2 stations	109	5†	Hillside	17	26	2.18	+ 0.07	Du Bois	6.51	Santee	T.
Nevada	63.8	+3.6	Logan	107	12	Geyser	10	30	0.46	+ 0.05	Columbia	2.20	6 stations	0.00
New England	58.6	−1.4	Cornish, Me.	96	3	Grafton, N. H.	19	16	3.25	− 0.20	Nantucket, Mass.	7.76	Woodstock, Vt.	1.23
New Jersey	64.4	−1.5	Imlaystown	96	8	Charlotteburg	27	16	3.87	− 0.08	Chatham	6.55	Cape May	1.56
New Mexico	60.3	−3.5	Artesia	100	19	Elizabethtown	18	20	2.08	+ 0.15	Plainview (near)	6.36	Columbus	0.20
New York	59.4	−1.5	Keene Valley	100	3	4 stations	20	15	2.67	− 0.58	Mount Hope	8.46	Appleton	0.89
North Carolina	68.1	−2.6	Parkersburg	95	8	Banners Elk	29	23	5.77	+ 1.72	Gorge	12.41	Charlotte	2.45
North Dakota	57.2	+0.8	Haley	106	5	Medora	8	25	1.75	+ 0.13	Wahpeton	4.98	Cando	0.64
Ohio	64.1	−1.5	Hamilton	102	2	2 stations	26	23	2.37	− 0.41	Dennison	5.19	Conneaut	0.94
Oklahoma	70.7	−2.6	2 stations	109	5†	Kenton	32	21	5.57	+ 2.87	McAlester	11.66	Kenton	1.49
Oregon	58.5	+1.0	Glendale	101	16†	Follyfarm	7	25	1.47	+ 0.32	Glenora	11.23	Big Basin	0.00
Pennsylvania	62.4	−1.5	4 stations	97	3†	Saegerstown	24	14	3.28	− 0.15	Lancaster	8.43	Parkers Landing	1.24
Porto Rico	77.7	−0.9	Canovanas	99	9	2 stations	52	10	7.51	− 0.95	Toro Negro Dam	13.35	Guanica Centrale	1.72
South Carolina	71.7	−2.5	Santuck	99	7	2 stations	40	22	4.66	+ 0.70	Beaufort	8.87	Broxton	1.77
South Dakota	62.2	+1.5	2 stations	110	5	2 stations	17	22	1.59	− 0.48	Rapid City	5.07	Stephan	0.28
Tennessee	71.1	+0.2	Clarksville	106	3	Pinewood	29	22	3.16	+ 0.07	Savannah	6.37	Liberty	0.80
Texas	73.6	−3.5	3 stations	107	5†	Plemons	33	22	6.64	+ 3.80	Port Arthur	22.59	El Paso	0.60
Utah	59.5	−1.0	St. George	101	12	Kelton	12	24	1.28	+ 0.25	Strawberry-West	4.14	2 stations	0.00
Virginia	66.5	−1.4	Woodstock	98	6	Burkes Garden	29	3	3.41	+ 0.07	Stuart	11.07	Woodstock	1.39
Washington	56.8	+0.4	Kennewick	95	17	Deer Park	21	11	2.14	+ 0.29	Goat Lake	11.81	Eltopia	0.00
West Virginia	64.2	−2.5	Bancroft	100	6	2 stations	25	22†	2.88	− 0.16	Webster Springs	6.38	Spencer	0.86
Wisconsin	59.3	−0.6	Appleton	101	2	Mather	19	23	3.60	+ 0.06	Hillsboro	6.57	Downing	1.20
Wyoming	52.7	−0.7	Wheatland	99	3	South Pass City	1	25	1.38	+ 0.49	Knowles	4.91	Hyattville	0.05

† Other dates also.

TABLE I.—*Climatological data for United States Weather Bureau stations, September, 1913.*

Districts and stations.	Elevation of instruments.			Pressure in inches.			Temperature of the air, in degrees Fahrenheit.												Mean wet thermometer.	Mean temperature of the dew point.	Mean relative humidity, per cent.	Precipitation, inches.			Wind.				Clear days.	Partly cloudy days.	Cloudy days.	Average cloudiness, tenths.	Total snowfall.	Snow on ground at end of month.
	Barometer above sea level, feet.	Thermometer above ground.	Anemometer above ground.	Station, reduced to mean of 24 hours.	Sea level, reduced to mean of 24 hours.	Departure from normal.	Mean max.+mean min.÷2.	Departure from normal.	Maximum.	Date.	Mean maximum.	Minimum.	Date.	Mean minimum.	Greatest daily range.						Total.	Departure from normal.	Days with 0.01 or more.	Total movement, miles.	Prevailing direction.	Maximum velocity. Miles per hour.	Maximum velocity. Direction.	Maximum velocity. Date.						
New England.							59.4	− 1.3													80	3.20	0.0								5.2		
Eastport	76	67	85	30.04	30.12	+ .09	54.6	− 0.6	81	3	62	37	30	48	27	50	47	80	1.69	− 1.3	10	6,829	sw.	36	se.	23	12	11	7	5.5		
Greenville	1,070	6	....	28.96	30.13	.....	53.4	.....	85	3	65	30	30	42	40	.....	.....	.....	4.30	.....	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Portland, Me	103	82	117	30.03	30.15	+ .10	58.3	− 1.3	84	3	66	39	15	50	26	53	49	77	3.46	+ 0.3	10	6,759	s.	37	nw.	8	16	6	8	4.3		
Concord	288	70	79	29.84	30.15	+ .09	58.4	− 0.7	91	3	70	28	15	47	38	.....	.....	.....	3.26	0.0	8	3,429	nw.	34	s.	22	15	5	10	4.7		
Burlington	404	11	48	29.70	30.14	+ .08	56.7	− 2.2	90	2	68	30	15	46	30	.....	.....	.....	2.66	− 0.7	6	7,161	s.	36	s.	17	10	12	8	5.0		
Northfield	876	12	60	29.21	30.16	+ .10	54.3	− 0.3	92	3	69	22	15	40	48	49	46	80	1.84	− 0.9	9	4,802	s.	31	sw.	22	13	7	10	4.8		
Boston	125	115	188	.....	30.15	+ .08	62.0	− 0.7	86	3	70	41	15	54	24	.....	.....	.....	2.51	− 0.7	9	6,672	sw.	35	s.	22	14	7	9	.....	.....	.....
Nantucket	12	14	90	30.13	30.14	+ .06	61.6	− 1.2	79	2	67	47	16	56	19	58	55	84	7.76	+ 5.0	10	9,722	sw.	42	n.	9	12	11	7	5.4		
Block Island	26	11	46	30.11	30.14	+ .06	62.2	− 1.9	77	3	67	48	15	58	13	58	56	81	3.09	+ 0.1	9	10,260	sw.	36	se.	22	12	5	13	5.7		
Narragansett	....	9	....	.....	.....	.....	60.6	− 2.2	79	4	69	36	10	52	29	.....	.....	.....	3.08	.....	10	.....	sw.	.....	.....	.....	18	5	7	.....	.....	.....	.....
Providence	160	141	165	29.97	30.15	+ .09	60.4	− 2.8	84	3	69	39	15	52	26	57	54	83	2.90	− 0.3	9	7,580	sw.	48	s.	22	13	7	10	5.1		
Hartford	159	122	140	29.97	30.14	+ .07	61.4	− 0.3	87	2	71	38	15	52	32	57	54	83	3.56	+ 0.1	10	4,633	s.	24	s.	22	8	10	12	5.9		
New Haven	106	117	155	30.03	30.14	+ .07	62.6	− 1.3	86	8	71	40	15	54	25	57	53	76	2.52	− 1.3	8	5,747	n.	30	se.	22	12	8	10	5.3		
Middle Atlantic States.							65.6	− 0.6													77	3.12	− 0.2								5.4		
Albany	97	102	115	30.03	30.13	+ .06	61.7	− 0.6	89	2	72	35	15	52	33	54	50	72	1.79	− 1.4	7	5,119	s.	39	se.	21	18	6	6	3.9		
Binghamton	871	10	60	29.22	30.15	+ .08	61.2	+ 1.2	90	3	72	29	15	50	37	.....	.....	.....	2.93	+ 0.2	7	2,944	ne.	20	nw.	27	9	7	14	6.3		
New York	314	414	454	29.80	30.14	+ .06	64.6	− 1.9	85	8	71	47	14	58	20	58	54	73	5.28	+ 1.7	11	9,212	sw.	54	se.	21	9	7	14	6.1		
Harrisburg	374	94	104	29.75	30.15	+ .07	64.6	− 0.3	92	5	73	42	23	56	31	58	53	74	3.51	+ 0.7	12	3,582	e.	26	se.	21	8	9	13	6.0		
Philadelphia	117	123	184	30.02	30.15	+ .07	67.0	− 0.4	89	5	74	48	15	60	22	60	56	75	4.24	+ 0.9	11	6,045	ne.	26	ne.	5	7	13	10	5.3		
Reading	325	81	98	29.80	30.15	.....	64.6	.....	91	5	74	42	16	56	28	58	54	76	5.37	.....	11	3,758	se.	30	se.	5	9	7	14	5.9		
Scranton	805	111	119	29.29	30.15	+ .08	62.4	+ 0.2	88	4	73	37	15	52	34	57	54	81	3.87	+ 1.0	9	3,967	n.	27	sw.	13	10	8	12	5.9		
Atlantic City	52	37	48	30.09	30.14	+ .07	66.8	− 0.8	86	8	72	46	23	61	20	62	59	78	3.10	0.0	9	5,328	e.	35	s.	21	7	14	9	5.6		
Cape May	17	13	49	30.13	30.15	+ .08	67.8	− 1.2	87	8	74	48	16	61	22	63	61	81	1.56	− 1.4	10	5,470	ne.	36	se.	21	6	20	4	4.9		
Trenton	190	159	183	29.93	30.13	.....	65.2	.....	90	5	74	44	15	56	28	59	56	79	4.66	.....	11	6,698	ne.	39	se.	21	9	7	14	6.0		
Baltimore	123	100	113	30.01	30.14	+ .06	68.4	− 0.2	92	7	76	47	23	60	25	61	56	71	1.51	− 2.3	7	4,338	s.	24	s.	21	9	13	8	5.6		
Washington	112	62	85	30.01	30.13	+ .05	67.4	− 0.7	93	7	77	40	23	58	30	61	57	76	2.41	− 1.2	6	3,696	s.	24	nw.	21	9	9	12	5.5		
Lynchburg	681	83	88	29.40	30.14	+ .06	67.5	− 0.9	89	6	77	39	23	58	35	61	58	78	2.44	− 1.2	9	4,288	ne.	43	sw.	12	11	15	4	4.9		
Mount Weather	1,725	10	75	28.32	30.12	+ .05	62.9	+ 0.5	85	6	70	41	14	56	21	57	53	77	2.80	0.0	9	8,609	se.	38	nw.	21	11	7	12	5.4		
Norfolk	91	170	205	30.03	30.13	+ .07	70.8	− 0.9	89	7	77	54	23	64	22	64	61	78	5.23	+ 1.2	11	8,437	ne.	50	e.	3	11	11	8	5.3		
Richmond	144	11	52	29.98	30.14	+ .07	69.0	− 1.8	89	7	78	43	23	60	30	62	59	78	3.20	− 0.2	9	4,444	ne.	31	s.	21	13	9	8	4.8		
Wytheville	2,293	40	47	27.78	30.14	+ .07	62.0	− 1.6	86	1	72	34	23	51	39	57	55	87	2.89	− 0.4	12	2,174	e.	16	sw.	22	11	10	9	4.7		
South Atlantic States.							71.8	− 1.3													80	5.03	+ 0.3								5.2		
Asheville	2,255	70	84	27.81	30.14	+ .07	63.7	− 1.3	87	2	73	36	23	54	37	58	56	86	4.15	+ 1.1	12	4,698	se.	27	e.	14	10	11	9	5.5		
Charlotte	773	68	76	29.29	30.12	+ .05	68.6	− 2.1	90	8	77	46	22	60	28	63	60	81	2.45	− 0.8	11	3,931	ne.	24	w.	21	10	6	14	5.9		
Hatteras	11	12	50	30.10	30.11	+ .05	73.0	− 1.7	86	8	78	62	12	68	15	68	65	79	7.28	+ 2.0	13	9,625	ne.	74	se.	3	12	13	5	4.4		
Manteo	12	12	46	.....	.....	.....	71.4	.....	91	8	79	49	24	64	.....	.....	.....	.....	8.93	+ 3.6	7	.....	.....	.....	.....	.....	13	10	7	.....	.....	.....	.....
Raleigh	376	103	110	29.71	30.11	+ .04	69.5	− 1.1	90	8	78	46	23	61	28	63	60	78	6.03	+ 2.7	8	5,003	ne.	37	ne.	3	9	12	9	5.2		
Wilmington	78	81	91	30.02	30.10	+ .05	71.8	− 1.3	88	8	80	51	23	64	23	66	64	84	3.54	− 1.7	10	5,218	ne.	30	w.	3	12	7	11	4.8		
Charleston	48	11	92	30.03	30.08	+ .04	75.0	− 1.2	90	2	82	53	22	68	25	69	66	79	7.26	+ 1.8	13	7,460	ne.	62	ne.	9	15	6	9	4.7		
Columbia, S. C	351	41	57	29.73	30.10	+ .05	72.0	− 1.7	92	1	81	48	22	63	30	64	60	75	4.77	+ 1.3	9	4,340	e.	22	ne.	16	11	9	10	5.1		
Augusta	180	89	97	29.90	30.09	+ .04	72.7	− 1.7	92	1	82	47	22	63	30	66	63	78	2.60	− 1.1	10	3,750	ne.	24	ne.	9	11	7	12	5.5		
Savannah	65	150	194	30.01	30.08	+ .05	74.6	− 0.8	90	2	82	52	22	67	21	69	67	83	4.63	− 0.9	11	6,793	ne.	32	sw.	18	8	11	11	5.6		
Jacksonville	43	96	129	30.01	30.06	+ .06	77.3	0.0	92	3	85	55	22	70	21	71	69	82	3.74	− 4.3	9	6,118	ne.	30	ne.	10	10	13	7	5.0		
Florida Peninsula.							80.0	− 0.3													78	5.04	− 2.9								5.4		
Key West	22	10	64	29.94	29.96	+ .02	81.5	− 1.0	89	1	86	71	5	77	16	75	73	78	6.22	− 0.6	15	6,739	e.	26	e.	24	8	13	9	6.0		
Miama	25	37	72	29.97	30.00	.....	80.3	− 1.2	88	3	86	70	13	75	17	74	72	77	6.46	− 3.2	15	5,908	e.	25	e.	24	0	16	14	7.3		
Sand Key	23	39	72	29.92	29.95	.....	79.9	.....	86	20	83	72	4	77	10	75	73	77	4.41	.....	18	9,710	e.	34	ne.	24	11	13	6	5.0		
Tampa	35	79	96	29.98	30.02	+ .05	79.2	+ 0.9	91	9	87	59	22	71	20	72	70	81	2.44	− 5.0	13	4,969	ne.	29	se.	16	12	11	7	4.5		
Titusville	44	6	....	29.98	30.04	.....	79.2	+ 0.2	93	19	86	58	22	72	22	.....	.....	.....	3.73	.....	10	.....	e.	.....	.....	.....	13	14	3	4.2	.....	.....	.....
East Gulf States.							74.1	− 0.7													80	7.94	+ 3.1								5.9		
Atlanta	1,174	190	216	28.87	30.10	+ .05	70.4	− 1.7	92	2	79	45	22	62	24	63	59	74	2.40	− 1.1	13	6,589	ne.	36	sw.	29	11	6	13	5.6		
Macon	370	78	87	29.68	30.07	+ .04	72.6	− 0.3	91	2	82	45	22	63	29	66	63	80	2.78	− 0.6	10	3,477	ne.	20	ne.	10	10	9	11	5.5		
Thomasville	273	8	57	29.75	30.05	+ .04	75.6	− 1.2	92	3	85	46	22	66	31	68	67	86	2.30	− 2.0	11	3,404	e.	19	sw.	20	9	12	9	5.7		
Pensacola	56	140	182	29.96	30.02	+ .03	75.9	− 2.0	93	3	81	58	22	71	18	71	68	81	13.71	+ 8.5	13	9,587	e.	52	s.	15	8	11	11	5.7		
Anniston	741	9	57	29.31	30.10	+ .07	71.8	+ 0.5	95	3	82	39	22	62	33	.....	.....	.....	4.95	+ 1.4	12	4,144	se.	26	se.	15	8	12	10	5.4		
Birmingham	700	11	48	29.32	30.08	+ .05	72.8	− 1.2	97	3	81	45	22	64	28	65	62	77	7.41	+ 3.9	13	4,600	se.	24	sw.	29	9	11	10	5.5		
Mobile	57	98	106	29.95	30.01	+ .01	76.6	+ 0.1	94	3	83	53	22	70	24	70	68	81	15.50	+10.5	13	4,480	e.	28	se.	15	8	14	8	5.5		
Montgomery	223	100	112	29.82	30.06	+ .04	73.6	− 2.2	96	3	82	47	22	66	28	67	64	77	7.97	+ 5.1	15	4,392	e.	26	se.	6	9	9	12	5.8		
Meridian	375	84	93	29.63	30.02	.00	72.9	+ 0.2	96	3	81	46	22	65	28	67	65	83	8.52	+ 5.0	16	3,746	e.	29	ne.	3	6	4	20	7.3		
Vicksburg	247	62	74	29.74	30.01	− .01	74.7	− 0.1	95	4	82	50	22	67	25	68	66	82	9.99	+ 6.6	14	4,356	e.	22	se.	3	7	6	17	6.3		
New Orleans	51	90	121	29.93	29.98	.00	78.0	0.0	93	3	84	59	22	72	18	72	70	84	11.84	+ 7.0	16	5,303	se.	31	s.	27	5	9	16	6.7		
West Gulf States.							73.8	− 1.9													79	8.75	+ 5.3								6.0		
Shreveport	249	77	93	29.72	29.98	− .02	73.4	− 2.3	98	4	82	49	21	65	28	67	65	83	16.46	+13.2	16	4,685	se.	25	ne.	13	10	5	15	5.9		
Bentonville	1,303	11	44	28.66	30.01	− .01	68.8	− 0.1	99	5	78	43	22	60	34	.....	.....	.....	3.96	+ 0.5	12	3,611	s.	24	s.	23	11	5	14	5.7		
Fort Smith	457	79	94	29.51	29.99	− .02	72.4	− 0.3	102	4	81	45	22	63	35	64	60	74	4.99	+ 1.8	14	4,862	e.	44	nw.	19	8	8	14	6.0		
Little Rock	357	139	147	29.63	30.00	− .03	71.7	− 1.4	101	4	80	46	22	64	29	65	62	80	9.25	+ 6.0	17	5,702	e.	36	nw.	20	12	2	16	5.9		
Brownsville	57	3	40	.....	.....	.....	79.2	.....	98	7	88	56	22	70	29	.....	.....	.....	14.38	.....	18	.....	s.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Corpus Christi	20	69	77	29.92	29.94	− .01	77.5	− 1.5	92	6	84	59	22	72	21	72	70	83	9.17	+ 5.2	10	6,932	e.	33	se.	1	2	18	10	6.5		
Fort Worth	670	106	114	29.26	29.96	− .03	72.9	− 3.8	104	5	82	49	21	64	31	64	61	74	7.29	+ 4.3	11	7,093	s.	38	s.	22	11	6	13	5.6		
Galveston	54	106	114	29.90	29.96	− .02	76.8	− 2.6	91	4	82	62	21	72	16	72	69	80	18.68	+13.3	15	7,341	se.	37	e.	4	5	11	14	6.4		
Houston	138	111	121	29.80	29.94	.....	76.0	− 2.5	97	6	83	54	21	69	25	.....	.....	.....	13.37	.....	17	4,853	se.	38	se.	6	4	10	16	6.9		
Palestine	510	64	72	29.44	29.97	− .02	73.2	− 1.5	101	5	81	50	21	65	31	66	63	81	6.64	+ 3.4	16	4,707	e.	28	se.	9	9	8	13	6.1		
San Antonio	701	80	91	29.23	29.95	− .01	75.6	− 1.5	99	7	85	53	21	66	28	67	64	77	7.21	+ 4.3	13	4,104	n.	31	n.	20	12	11	7	4.4		
Taylor	583	55	63	29.37	29.98	+ .01	73.4	− 3.5	99	6	82	50	21	64	32	.....	.....	.....	3.88	+ 0.8	12	5,547	n.	31	nw.	6	8	8	14	6.2		
Ohio Valley and Tennessee.							68.2	0.0													73	3.16	+ 0.4								5.7		
Chattanooga	762	189	213	29.30	30.10	+ .04	71.2	0.0	95	2	80	41	22	62	30	62	59	72	3.74	+ 0.5	12	4,478	ne.	30	se.	5	8	10	12	5.8		
Knoxville	996	93	100	29.05	30.09	+ .03	70.2	+ 0.8	94	2	80	43	22	60	31	62	58	71	3.34	+ 0.5	10	2,931	ne.	24	n.	12	10	10	10	5.5		
Memphis	399	76	97	29.63	30.05	+ .02	72.8	0.0	94	4	81	47	21	65	22	65	62	76	6.01	+ 3.0	15	4,934	s.	34	nw.	20	9	7	14	6.0		
Nashville	546	168	191	29.50	30.08	+ .02	72.2	+ 0.7	99	3	82	43	22	63	32	63	58	68	1.79	− 1.9	10	5,889	ne.	44	ne.	3	9	9	12	6.0		

TABLE I.—*Climatological data for United States Weather Bureau stations, September, 1913*—Continued.

Districts and stations.	Elevation of instruments.			Pressure in inches.			Temperature of the air, in degrees Fahrenheit.												Mean wet thermometer.	Mean temperature of the dew point.	Mean relative humidity, per cent.	Precipitation, inches.			Wind.				Clear days.	Partly cloudy days.	Cloudy days.	Average cloudiness, tenths.	Total snowfall.	Snow on ground at end of month.
	Barometer above sea level, feet.	Thermometer above ground.	Anemometer above ground.	Station, reduced to mean of 24 hours.	Sea level, reduced to mean of 24 hours.	Departure from normal.	Mean max. + mean min. ÷ 2.	Departure from normal.	Maximum.	Date.	Mean maximum.	Minimum.	Date.	Mean minimum.	Greatest daily range.							Total.	Departure from normal.	Days with 0.01 or more.	Total movement, miles.	Prevailing direction.	Maximum velocity. Miles per hour.	Maximum velocity. Direction.	Maximum velocity. Date.					
***Ohio Valley and Tennessee*—Continued.**																																	
Lexington	989	75	102	29.04	30.10	+ .03	68.9	+ 1.0	96	2	79	40	23	59	35							1.76	− 0.7	12	6,210	ne.	33	sw.	22	6	13	11	6.1		
Louisville	525	219	255	29.52	30.10	+ .04	70.0	+ 0.1	98	2	79	43	23	61	34	60	55	66				1.85	− 0.8	9	6,729	n.	30	n.	7	7	10	13	6.2		
Evansville	431	72	82	29.60	30.06	.00	70.4	+ 0.7	99	3	79	43	22	62	32	62	59	73				4.31	+ 1.6	10	4,569	s.	24	ne.	8	10	10	10	5.8		
Indianapolis	822	154	164	29.22	30.10	+ .04	66.0	− 0.7	96	3	76	37	23	56	35	58	53	70				3.03	− 0.2	12	6,072	ne.	29	w.	30	7	8	15	6.4		
Terre Haute	575	96	129	29.46	30.07	.....	68.0	.....	98	3	78	39	23	58	37	59	54	71				3.78	.....	11	6,068	s.	33	s.	11	5	15	10	6.0		
Cincinnati	628	152	160	29.43	30.11	+ .04	68.4	− 0.6	97	1	78	40	23	58	33	60	56	72				1.86	− 0.4	11	4,009	se.	26	se.	6	9	7	14	6.1		
Columbus	824	173	222	29.25	30.12	+ .05	65.4	− 0.5	94	2	76	36	23	55	32	58	53	72				3.28	+ 0.8	12	6,684	se.	34	w.	20	12	4	14	5.6		
Dayton	899	181	216	29.15	30.10	.....	65.8	− 1.6	98	2	76	34	23	55	35	58	54	73				2.31	− 0.2	13	6,208	ne.	34	sw.	20	9	9	12	5.6		
Pittsburgh	842	353	410	29.23	30.13	+ .05	65.0	− 1.1	92	6	74	38	23	55	32	56	51	67				2.86	+ 0.4	11	5,953	sw.	33	nw.	7	12	10	8	4.6		
Elkins	1,940	41	50	28.12	30.16	+ .08	61.8	− 0.1	90	6	75	31	23	49	44	54	53	87				5.09	+ 2.2	9	1,776	w.	17	sw.	7	10	10	10	5.5		
Parkersburg	638	77	84	29.48	30.14	+ .06	66.4	+ 0.3	94	6	76	37	23	56	38	59	57	80				2.96	+ 0.2	10	2,788	se.	26	w.	20	16	5	9	4.9		
Lower Lake Region.							**61.4**	**− 1.8**										**72**				**1.99**	**− 0.8**									**5.1**		
Buffalo	767	247	280	29.30	30.12	+ .06	60.8	− 2.1	87	2	69	39	15	53	32	55	51	75				1.35	− 1.8	7	9,849	sw.	50	w.	26	10	10	10	5.3		
Canton	448	10	61	29.66	30.14	.....	56.4	− 2.9	88	2	68	28	15	44	40							2.26	− 0.6	10	6,422	sw.	42	w.	26	9	11	10	5.5		
Oswego	335	76	91	29.75	30.12	+ .06	59.6	− 3.1	87	3	68	35	15	52	30	53	48	71				3.19	+ 0.4	9	6,460	ne.	32	ne.	8	12	8	10	4.6		
Rochester	523	86	102	29.58	30.15	+ .09	60.4	− 1.5	92	2	70	37	14	51	31	53	48	69				1.60	− 0.7	8	4,967	sw.	28	w.	26	12	9	9	4.8		
Syracuse	597	97	113	29.50	30.15	+ .08	60.8	− 0.8	90	3	70	33	15	51	29	53	49	71				1.87	− 1.0	9	6,340	s.	36	nw.	27	12	8	10	5.0		
Erie	714	92	102	29.35	30.12	+ .06	62.6	− 1.3	91	3	70	39	14	55	31	55	50	70				1.69	− 1.8	6	7,025	s.	26	s.	16	8	12	10	5.6		
Cleveland	762	190	201	29.30	30.13	+ .07	62.6	− 1.7	92	2	70	39	23	55	28	56	52	72				2.10	− 1.1	9	8,639	se.	36	n.	4	10	11	9	5.1		
Sandusky	629	62	70	29.44	30.12	+ .06	63.5	− 1.8	94	2	72	36	23	55	29	56	52	71				2.18	− 0.5	10	5,519	s.	27	nw.	13	9	6	15	5.8		
Toledo	628	208	246	29.44	30.12	+ .06	63.1	− 1.0	97	2	72	36	23	54	28	56	52	71				2.51	+ 0.2	8	9,812	sw.	48	sw.	20	12	10	8	4.8		
Fort Wayne	856	113	124	29.18	30.11	.....	63.1	− 2.4	96	2	74	34	23	52	34	57	53	77				3.01	.....	10	5,477	ne.	26	sw.	20	11	9	10	4.9		
Detroit	730	218	258	29.34	30.13	+ .07	62.3	− 0.8	95	2	71	37	23	54	27	55	50	71				1.18	− 1.3	8	7,922	e.	35	s.	20	10	10	10	5.3		
Upper Lake Region.							**59.0**	**− 0.1**										**77**				**2.51**	**− 0.7**									**5.1**		
Alpena	609	13	92	29.45	30.12	+ .09	56.8	− 0.5	92	2	65	36	14	49	28	53	50	81				1.77	− 1.7	6	8,170	se.	33	w.	20	11	14	5	4.7		
Escanaba	612	54	60	29.42	30.08	+ .07	56.0	− 0.9	85	7	63	30	23	49	25	52	49	80				3.54	0.0	8	7,086	s.	30	n.	20	10	12	8	5.0		
Grand Haven	632	54	92	29.40	30.08	+ .04	60.8	− 0.3	90	1	70	40	22	51	32	55	52	77				3.03	− 0.1	11	7,122	e.	30	sw.	20	14	9	7	4.1		
Grand Rapids	707	70	87	29.33	30.10	+ .05	63.2	+ 1.4	98	2	74	40	27	53	32	55	50	71				2.25	− 0.9	9	4,176	se.	20	w.	21	11	10	9	4.9		
Houghton	684	62	72	29.34	30.07	+ .07	55.6	− 0.5	94	1	64	33	22	47	36							4.01	+ 0.5	12	6,210	e.	37	n.	21	9	10	11	5.7	2.5	
Lansing	878	11	62	29.16	30.10	.....	61.0	− 0.3	97	2	73	35	23	49	35	54	52	82				1.53	− 1.1	9	3,529	se.	37	sw.	20	11	9	10	5.2		
Ludington	637	60	66	29.39	30.08	.....	59.2	.....	86	1	68	37	14	50	32	54	51	76				2.28	.....	11	7,311	se.	33	w.	20	14	6	10	4.5		
Marquette	734	77	111	29.30	30.10	+ .10	56.2	− 0.6	92	1	64	34	23	49	32	51	47	78				3.76	+ 0.2	13	7,915	nw.	39	nw.	21	9	9	12	5.8	0.1	
Port Huron	638	70	120	29.42	30.11	+ .05	60.4	− 0.5	91	2	70	36	23	51	34	54	51	76				0.69	− 2.0	6	7,265	sw.	30	sw.	20	12	9	9	4.8		
Saginaw	641	62	64	29.41	30.11	.....	60.5	.....	95	2	71	38	14	50	33	54	51	77				1.73	− 1.4	8	4,117	s.	20	.....	20	12	8	10	5.1		
Sault Ste. Marie	614	11	61	29.42	30.12	+ .10	55.2	+ 0.9	82	2	64	32	14	46	26	50	48	83				2.36	− 1.1	11	5,531	e.	32	nw.	12	12	5	13	5.8		
Chicago	823	140	310	29.21	30.09	+ .05	65.4	+ 0.8	97	2	72	38	22	59	24	59	55	72				1.49	− 1.5	9	8,491	se.	32	w.	20	12	10	8	4.6		
Green Bay	617	109	144	29.40	30.06	+ .04	59.8	+ 0.7	94	2	69	36	20	51	28	54	51	78				3.56	+ 0.4	9	7,359	se.	32	w.	20	7	11	12	6.8		
Milwaukee	681	119	133	29.34	30.08	+ .05	62.8	+ 1.3	96	2	69	37	22	56	25	56	52	72				2.05	− 0.9	8	7,659	se.	34	se.	10	11	10	9	4.7		
Duluth	1,133	11	47	28.86	30.09	+ .11	53.9	− 2.8	80	2	62	28	22	46	26	48	45	79				3.32	− 0.2	9	8,670	ne.	48	nw.	21	12	5	13	5.3	T.	
North Dakota.							**57.8**	**+ 0.6**										**70**				**1.95**	**+ 0.5**									**4.1**		
Moorhead	940	8	57	29.04	30.06	+ .10	58.8	+ 2.2	96	1	71	24	22	47	39	51	48	79				2.27	0.0	9	5,206	s.	36	nw.	5	18	8	4	3.0		
Bismarck	1,674	8	57	28.27	30.05	+ .11	59.0	+ 1.9	100	5	73	32	21	45	40	49	43	68				2.29	+ 1.1	7	7,185	e.	47	nw.	19	10	15	5	4.5	T.	
Devils Lake	1,482	11	44	28.44	30.01	+ .07	56.4	+ 0.8	88	5	69	25	22	44	35	48	43	71				2.17	+ 0.8	9	7,360	se.	40	w.	19	15	9	6	4.1		
Williston	1,872	40	47	28.02	29.99	+ .06	57.2	− 2.3	96	5	71	28	21	43	43	48	41	62				1.07	+ 0.2	5	6,100	se.	44	nw.	19	12	9	9	4.9	T.	
Upper Mississippi Valley.							**65.6**	**+ 0.8**										**72**				**3.09**	**− 0.2**									**5.2**		
Minneapolis	918	102	208	.....	.....	.....	61.4	.....	97	5	70	31	22	52	30	.....	.....	.....				4.12	+ 0.5	10	8,591	s.	40	nw.	20	15	4	11	4.8		
St. Paul	837	201	236	29.14	30.04	+ .05	60.8	+ 0.5	96	1	70	32	22	52	30	53	49	70				3.34	− 0.1	11	8,688	se.	43	n.	20	11	8	11	5.2		
La Crosse	714	11	48	29.29	30.06	+ .05	62.2	+ 0.5	98	1	72	32	23	52	33	.....	.....	.....				3.16	− 1.0	9	3,272	se.	19	nw.	20	10	8	12	5.6		
Madison	974	70	78	29.04	30.08	+ .05	61.2	+ 0.1	94	2	70	34	22	52	25	55	52	76				4.32	+ 1.1	10	5,954	s.	27	nw.	20	14	7	9	4.8		
Charles City	1,015	10	49	28.99	30.06	+ .06	62.1	+ 0.4	98	5	73	27	22	51	34	55	51	76				3.48	+ 0.7	11	4,503	se.	26	ne.	8	7	9	14	6.2		
Davenport	606	71	79	29.40	30.06	+ .03	66.0	+ 1.3	99	1	76	38	22	56	32	57	53	71				1.80	− 1.3	9	4,897	e.	25	e.	8	12	7	11	5.0		
Des Moines	861	84	97	29.13	30.03	+ .01	65.9	+ 0.9	99	4	76	32	22	56	31	57	52	68				2.65	− 0.4	11	5,202	se.	39	sw.	1	11	11	8	5.0		
Dubuque	698	81	96	29.33	30.08	+ .05	63.6	0.0	97	1	73	36	22	54	32	56	51	72				3.59	0.0	11	4,017	s.	22	nw.	20	13	5	12	5.3		
Keokuk	614	64	78	29.38	30.05	+ .02	67.8	+ 1.4	101	3	78	33	22	58	33	59	54	68				1.42	− 2.6	10	5,007	e.	25	nw.	20	15	7	8	4.7		
Cairo	356	87	93	29.66	30.03	− .02	70.9	+ 0.7	98	3	80	43	22	62	27	64	61	77				2.22	− 0.2	9	5,232	s.	33	n.	12	10	7	13	5.8		
La Salle	536	56	64	29.52	30.09	+ .05	65.0	+ 1.1	99	2	76	36	22	54	38	.....	.....	.....				1.92	− 1.3	8	4,616	e.	23	nw.	20	11	8	11	4.9		
Peoria	609	11	45	29.42	30.08	+ .04	66.8	+ 2.5	101	1	78	37	27	55	33	57	53	73				2.58	− 0.5	8	4,118	e.	19	w.	20	12	9	9	5.1		
Springfield, Ill.	644	10	91	29.37	30.06	+ .01	67.8	+ 1.4	99	1	78	36	22	58	36	58	54	70				3.41	0.0	10	5,543	e.	26	nw.	20	13	3	14	5.2		
Hannibal	534	74	109	29.47	30.04	+ .01	68.8	+ 0.9	101	1	78	33	22	59	31	.....	.....	.....				3.91	+ 0.4	10	5,740	e.	28	e.	14	16	6	8	4.5		
St. Louis	567	208	217	29.44	30.05	+ .01	69.9	− 0.1	99	1	78	42	22	62	31	60	56	69				4.50	+ 1.6	12	5,972	se.	28	s.	23	13	8	9	5.2		
Missouri Valley.							**66.5**	**+ 1.2**										**64**				**2.76**	**+ 0.1**									**4.9**		
Columbia, Mo.	784	11	84	29.21	30.03	.00	69.6	+ 1.8	103	4	79	37	22	60	33	.....	.....	.....				4.40	+ 1.6	9	5,065	se.	29	s.	19	9	7	14	*6.1		
Kansas City	963	161	181	29.00	30.02	.00	69.1	+ 1.6	101	4	77	42	22	61	28	59	54	67				4.14	+ 0.4	9	7,714	s.	47	n.	19	11	7	12	5.3		
St. Joseph	967	11	49	29.00	30.03	.....	68.8	.....	102	5	79	38	22	59	32	58	53	68				4.06	.....	10	5,157	se.	34	nw.	20	12	7	11	5.1		
Springfield, Mo.	1,324	98	104	28.64	30.03	.00	68.4	+ 0.5	99	4	77	41	21	60	28	59	55	71				3.85	+ 0.1	11	6,680	se.	29	s.	23	14	6	10	4.6		
Iola	984	11	50	28.98	30.01	.00	68.9	+ 0.3	104	5	80	39	22	58	39	.....	.....	.....				3.12	− 0.2	12	4,759	s.	26	nw.	20	12	8	10	4.9		
Topeka	983	85	101	.....	.....	.....	68.8	+ 0.5	102	5	78	41	22	59	34	.....	.....	.....				5.98	+ 2.4	9	6,429	e.	36	sw.	23	13	8	9	4.7		
Lincoln	1,189	11	84	28.76	30.02	+ .03	67.4	+ 2.2	103	5	78	34	22	56	34	56	50	64				3.30	+ 0.7	9	7,016	s.	37	nw.	20	14	7	9	4.6		
Omaha	1,105	115	121	28.86	30.03	+ .03	67.5	+ 1.7	100	5	77	36	22	58	28	57	50	63				3.62	+ 0.6	11	5,375	s.	34	n.	20	12	8	10	5.1		
Valentine	2,598	47	54	27.33	30.03	+ .07	62.3	0.0	98	4	75	29	26	50	37	51	43	60				1.15	− 0.6	6	7,227	s.	38	nw.	19	15	13	2	3.7		
Sioux City	1,135	94	164	28.82	30.03	+ .05	64.6	+ 0.1	99	5	75	30	22	54	35	55	49	64				1.13	− 1.3	10	8,565	s.	42	nw.	20	17	7	6	3.8		
Huron	1,306	56	67	28.65	30.04	+ .08	62.2	+ 2.6	102	5	76	25	22	49	39	52	46	65				0.63	− 1.1	6	7,840	s.	39	s.	14	8	11	11	5.3		
Pierre	1,572	70	75	28.37	30.02	+ .07	65.0	+ 2.2	104	5	77	33	25	53	45	53	44	55				0.56	− 0.6	4	7,537	e.	38	nw.	19	12	12	6	4.5		
Yankton	1,233	49	57	28.70	30.00	+ .02	64.7	+ 1.4	101	4	76	30	22	53	32	.....	.....	.....				1.18	− 1.3	7	5,567	e.	32	sw.	1	6	15	9	5.5		
Northern Slope.							**57.0**	**− 0.4**										**60**				**1.78**	**+ 0.7**									**4.1**		
Havre	2,505	11	44	27.36	29.98	+ .04	57.0	− 0.6	92	4	73	25	24	41	48	48	41	64				0.82	− 0.2	4	5,135	nw.	37	w.	18	14	12	4	4.1		
Helena	4,110	87	114	25.85	30.01	+ .04	57.8	+ 1.6	86	4	71	31	25	44	40	45	35	48				0.36	− 0.7	4	6,188	sw.	48	s.	2	15	10	5	3.6	T.	
Kalispell	2,962	11	34	26.98	30.02	+ .06	53.4	− 0.5	80	4	69	27	24	38	41	44	37	60				0.31	− 1.0	2	3,281	w.	28	sw.	8	16	8	6	3.5		
Miles City	2,371	26	48	27.50	30.03	+ .08	62.6	+ 1.4	98	5	77	28	25	48	49	52	47	67				2.97	+ 2.0	7	3,527	ne.	27	se.	8	17	8	5	3.2	T.	

TABLE I.—*Climatological data for United States Weather Bureau stations, September, 1913*—Continued.

Districts and stations.	Elevation of instruments.			Pressure in inches.			Temperature of the air, in degrees Fahrenheit.										Mean wet thermometer.	Mean temperature of the dew point.	Mean relative humidity, per cent.	Precipitation, inches.			Wind.				Clear days.	Partly cloudy days.	Cloudy days.	Average cloudiness, tenths.	Total snowfall.	Snow on ground at end of month.
	Barometer above sea level, feet.	Thermometer above ground.	Anemometer above ground.	Station, reduced to mean of 24 hours.	Sea level, reduced to mean of 24 hours.	Departure from normal.	Mean max.+mean min.÷2.	Departure from normal.	Maximum.	Date.	Mean maximum.	Minimum.	Date.	Mean minimum.	Greatest daily range.				Total.	Departure from normal.	Days with 0.01 or more.	Total movement, miles.	Prevailing direction.	Maximum velocity. Miles per hour.	Maximum velocity. Direction.	Maximum velocity. Date.					
***Northern Slope*—Con.**																														
Rapid City	3,234	46	50	26.65	30.04	+ .08	60.1	+ 1.0	94	3	72	30	25	48	41		50	42	58	5.07	+ 3.8	7	5,312	w.	28	nw.	19	14	5	11	4.6	T.	....
Cheyenne	6,088	58	64	24.10	30.04	+ .08	54.0	− 3.2	83	6	66	24	25	42	41		45	40	67	2.82	+ 1.9	14	5,576	nw.	50	s.	8	7	13	10	5.9	T.	....
Lander	5,372	60	68	24.73	30.05	+ .09	55.2	0.0	88	5	70	17	25	40	47		44	5	54	1.43	+ 0.4	8	3,174	sw.	46	w.	18	13	8	9	4.7	9.3	....
Sheridan	3,790	10	47	26.16	30.05	.....	55.8	.....	91	5	72	22	25	39	49		46	38	63	2.04	.....	8	4,243	nw.	38	nw.	22	16	6	8	3.8	0.1	....
Yellowstone Park	6,200	11	48	23.97	30.05	+ .08	50.4	− 3.0	78	6	64	19	25	37	40		41	34	60	1.34	+ 0.3	10	5,762	sw.	33	s.	9	12	11	7	4.3	4.8	....
North Platte	2,821	11	51	27.14	30.05	+ .08	62.8	− 0.4	97	4	77	27	26	49	41		51	44	63	0.90	− 0.6	8	4,910	s.	28	n.	19	17	8	5	3.6	.....	.....
Middle Slope.							**65.4**	**− 2.2**											**65**	**3.36**	**+ 1.4**								**4.8**		
Denver	5,291	129	172	24.81	30.03	+ .07	59.2	− 3.5	88	6	72	30	24	47	40		48	41	60	2.64	+ 1.8	13	5,042	s.	40	nw.	22	13	13	4	4.2	4.0	....
Pueblo	4,685	80	86	25.35	30.00	+ .04	61.0	− 3.4	89	1	74	34	27	48	48		48	41	58	0.79	+ 0.2	8	3,967	e.	39	nw.	22	16	9	5	3.7	.....	.....
Concordia	1,398	42	50	28.56	30.02	+ .03	68.0	− 0.1	103	6	79	37	26	56	37		57	51	64	3.03	+ 0.4	10	4,513	s.	28	se.	22	10	10	10	5.4	.....	.....
Dodge City	2,509	11	51	27.45	30.03	+ .05	64.8	− 3.4	97	7	76	38	25	54	36		56	51	73	5.40	+ 3.6	10	6,704	se.	42	ne.	19	12	10	8	4.6	.....	.....
Wichita	1,358	139	158	28.57	29.98	+ .02	69.1	− 0.7	100	6	78	42	21	60	30		59	52	64	3.52	+ 0.4	9	8,316	s.	37	s.	22	11	9	10	5.3	.....	.....
Oklahoma	1,214	10	47	28.73	30.00	+ .01	70.1	− 2.0	101	5	79	45	21	61	30		61	56	73	4.80	+ 2.0	13	9,018	s.	44	s.	22	9	10	11	5.7	.....	.....
Southern Slope.							**70.0**	**− 2.8**											**66**	**3.22**	**+ 0.5**								**4.3**		
Abilene	1,738	10	52	28.19	29.98	+ .02	72.7	− 1.5	99	19	84	47	21	62	38		60	54	63	4.42	+ 1.3	9	7,125	s.	35	sw.	22	14	7	9	4.4	.....	.....
Amarillo	3,676	10	49	26.32	30.02	+ .06	64.8	− 2.9	94	7	77	38	28	52	38		55	50	73	4.19	+ 1.8	10	7,349	s.	38	s.	1	18	6	6	3.9	.....	.....
Del Rio	944	8	57	28.97	29.94	.00	76.6	− 2.3	100	7	88	50	21	65	36		.....	.....	.....	1.59	− 1.4	9	5,435	se.	33	ne.	9	12	12	6	4.4	.....	.....
Roswell	3,566	9	57	26.40	29.97	+ .05	65.7	− 4.6	95	19	79	38	28	52	46		54	47	61	2.67	+ 0.4	8	5,265	s.	37	w.	22	11	12	7	4.6	.....	.....
Southern Plateau.							**69.5**	**− 1.0**											**46**	**0.45**	**− 0.4**								**2.3**		
El Paso	3,762	110	133	26.20	29.91	+ .03	69.2	− 3.5	94	19	81	44	28	58	40		55	44	48	0.60	− 0.8	4	7,456	e.	56	sw.	22	16	9	5	3.7	.....	.....
Santa Fe	7,013	57	62	23.34	29.95	+ .02	57.2	− 3.4	81	19	69	32	25	46	32		46	38	58	1.54	− 0.1	9	4,692	se.	32	n.	22	11	13	6	4.4	0.5	....
Flagstaff	6,907	8	57	.....	.....	.....	54.8	− 0.7	80	19	69	27	27	41	41		.....	.....	.....	1.89	.....	13	.....	nw.	32	sw.	22	10	17	3	.....	.....	.....
Phoenix	1,108	76	81	28.67	29.80	− .01	81.7	+ 0.3	104	11	96	49	25	68	36		62	48	36	0.13	− 0.9	2	3,979	e.	37	ne.	6	23	7	0	1.7	.....	.....
Yuma	141	9	58	29.63	29.77	− .01	85.8	+ 1.9	112	11	102	57	29	70	42		66	55	43	0.00	− 0.2	0	3,544	sw.	27	n.	13	30	0	0	0.4	.....	.....
Independence	3,910	11	42	26.00	29.94	+ .08	68.2	− 0.9	94	19	84	39	27	53	38		54	44	47	0.00	− 0.1	0	2,691	nw.	25	n.	22	26	4	0	1.5	.....	.....
Middle Plateau.							**61.4**	**− 0.3**											**47**	**1.03**	**+ 0.2**								**3.1**		
Reno	4,532	74	81	25.50	29.94	− .01	63.6	+ 3.9	91	18	80	32	24	47	41		48	36	43	0.08	− 0.2	1	4,400	w.	33	w.	2	28	2	0	1.1	.....	.....
Tonopah	6,090	12	20	24.12	29.95	.....	63.8	.....	85	20	74	31	30	53	31		48	32	34	0.62	+ 0.1	3	6,091	se.	42	nw.	22	22	7	1	2.3	.....	.....
Winnemucca	4,344	18	56	25.66	30.01	+ .08	61.8	+ 1.3	91	7	79	25	24	44	49		46	34	44	0.51	+ 0.2	3	3,599	ne.	24	s.	7	23	5	2	2.2	.....	.....
Modena	5,479	10	43	24.67	29.96	+ .04	59.7	− 0.5	86	18	75	27	24	45	42		46	33	45	0.98	− 0.1	6	6,898	w.	52	nw.	21	18	8	4	3.3	.....	.....
Salt Lake City	4,360	147	189	25.66	29.98	+ .03	63.5	− 1.6	87	12	74	37	23	53	34		51	42	51	0.93	+ 0.1	10	4,785	nw.	42	nw.	21	16	8	6	3.6	T.	....
Durango	6,546	18	56	23.73	29.97	+ .04	56.2	− 2.0	81	19	71	29	24	42	44		45	37	63	2.40	+ 0.6	13	3,729	nw.	24	w.	18	8	16	6	5.1	T.	....
Grand Junction	4,602	43	51	25.42	29.97	+ .02	63.5	− 2.9	86	12	76	37	23	51	37		50	41	52	1.70	+ 0.8	9	3,022	se.	56	nw.	22	13	10	7	4.2	.....	.....
Northern Plateau.							**60.9**	**− 0.3**											**45**	**0.80**	**0.0**								**3.2**		
Baker	3,471	48	53	26.52	30.08	+ .09	56.4	− 0.6	89	7	72	25	24	41	49		44	31	44	0.55	− 0.2	2	4,878	nw.	21	s.	2	23	4	3	2.0	.....	.....
Boise	2,739	78	86	27.19	30.03	+ .06	62.2	+ 0.3	93	7	76	36	25	48	42		49	35	41	0.65	+ 0.2	3	3,520	nw.	23	nw.	21	20	5	5	2.9	.....	.....
Lewiston	757	40	48	29.24	30.04	+ .06	63.9	+ 0.4	96	17	80	36	24	48	48		.....	.....	.....	0.60	0.0	6	2,303	e.	30	nw.	21	20	6	4	2.8	.....	.....
Pocatello	4,477	46	54	25.53	30.01	+ .05	59.2	− 1.5	86	5	73	25	25	46	42		47	36	49	0.88	0.0	7	5,723	se.	36	sw.	22	15	8	7	3.6	T.	....
Spokane	1,929	101	110	28.00	30.04	+ .06	59.0	+ 0.2	89	12	73	34	24	45	40		48	38	52	0.86	− 0.2	6	4,049	e.	33	w.	21	15	9	6	4.1	.....	.....
Walla Walla	1,000	107	115	28.98	30.04	+ .04	64.8	− 0.6	91	17	77	43	24	52	35		51	37	40	1.29	+ 0.4	5	5,153	sw.	37	sw.	21	16	8	6	3.6	.....	.....
N. Pac. Coast Region.							**57.8**	**+ 0.9**											**76**	**3.06**	**+ 0.5**								**4.6**		
North Head	211	11	56	29.83	30.05	+ .02	57.4	+ 1.2	84	11	62	50	5	53	26		54	51	83	2.40	+ 0.6	10	10,670	nw.	68	se.	2	18	8	4	3.4	.....	.....
Port Crescent	259	8	53	29.79	30.08	+ .06	52.0	− 0.5	68	12	60	34	23	44	26		.....	.....	.....	3.29	+ 1.0	13	3,516	s.	16	se.	11	10	10	10	5.4	.....	.....
Seattle	125	215	250	29.95	30.08	+ .07	58.8	+ 0.9	77	20	66	47	23	51	27		54	50	77	2.37	+ 0.4	9	5,944	n.	35	sw.	9	12	6	12	5.4	.....	.....
Tacoma	213	113	120	29.84	30.07	+ .05	58.0	+ 0.4	79	12	67	40	24	49	34		53	48	72	2.97	+ 0.5	8	3,741	n.	27	w.	21	12	11	7	5.4	.....	.....
Tatoosh Island	86	7	57	29.94	30.04	+ .03	54.4	+ 1.4	67	24	59	46	19	50	18		52	51	89	6.37	+ 0.2	14	10,476	s.	52	s.	3	10	9	11	5.5	.....	.....
Portland, Oreg	153	68	106	29.89	30.05	+ .04	62.3	+ 1.7	87	12	73	44	30	52	30		55	50	68	2.58	+ 0.7	7	4,088	nw.	24	s.	2	14	10	6	4.0	.....	.....
Roseburg	510	9	57	29.50	30.05	+ .03	62.0	+ 1.5	93	11	77	38	23	46	49		53	47	65	1.44	+ 0.4	6	1,962	n.	23	sw.	4	17	8	5	3.1	.....	.....
Mid. Pac. Coast Region.							**66.4**	**+ 2.9**											**57**	**0.08**	**− 0.5**								**2.2**		
Eureka	62	73	89	29.96	30.04	+ .03	56.2	+ 1.3	73	4	63	42	23	50	30		53	51	86	0.48	− 0.6	2	4,665	n.	36	n.	22	13	10	7	4.1	.....	.....
Mount Tamalpais	2,375	11	18	27.53	29.97	+ .03	67.6	+ 1.5	95	16	75	45	2	60	24		53	42	47	0.01	− 0.6	1	11,708	nw.	69	nw.	28	24	5	1	1.5	.....	.....
Point Reyes Light	490	7	18	29.40	29.91	.....	58.8	+ 2.7	91	16	64	50	8	53	33		.....	.....	.....	0.09	.....	3	13,273	nw.	62	nw.	8	14	7	9	4.3	.....	.....
Red Bluff	332	50	56	29.55	29.89	− .04	76.7	+ 2.8	105	16	90	53	28	63	37		57	39	30	0.00	− 0.8	0	4,740	n.	32	n.	22	24	3	3	1.7	.....	.....
Sacramento	69	106	117	29.82	29.89	.00	73.0	+ 3.9	104	17	88	52	28	58	40		58	45	45	T.	− 0.4	0	5,729	s.	33	nw.	23	29	1	0	0.5	.....	.....
San Francisco	155	200	204	29.77	29.93	− .01	64.6	+ 5.3	101	16	73	52	13	56	35		58	55	77	0	− 0.3	0	6,247	w.	31	w.	1	24	5	1	1.8	.....	.....
San Jose	141	12	110	29.79	29.94	.....	67.8	+ 3.1	103	16	83	45	29	53	47		.....	.....	.....	T.	− 0.3	0	4,266	nw.	27	sw.	1	27	3	0	1.4	.....	.....
S. Pac. Coast Region.							**71.9**	**+ 4.6**											**50**	**0.03**	**− 0.2**								**1.8**		
Fresno	327	89	98	29.53	29.88	+ .01	76.6	+ 2.3	107	18	92	48	30	61	38		58	43	37	T.	− 0.3	0	5,090	nw.	31	nw.	28	28	1	1	0.6	.....	.....
Los Angeles	338	159	191	29.53	29.88	.00	73.6	+ 7.1	108	17	84	58	29	63	35		61	54	62	0.03	0.0	2	3,883	sw.	22	s.	12	24	4	2	2.1	.....	.....
San Diego	87	62	70	29.78	29.87	− .02	70.3	+ 3.4	110	17	77	57	25	64	39		63	58	73	0.02	0.0	1	4,849	nw.	24	nw.	13	24	6	0	1.9	.....	.....
San Luis Obispo	201	47	54	29.72	29.94	+ .01	67.0	+ 5.5	109	17	81	45	10	53	50		56	51	67	0.07	− 0.4	2	3,353	n.	25	nw.	28	21	5	4	2.6	.....	.....
West Indies.																														
San Juan	82	8	54	29.87	29.95	+ .01	79.8	.....	91	9	85	72	21	75	16		.....	.....	.....	5.91	− 0.9	17	6,496	se.	34	e.	12	7	17	6	5.2	.....	.....
Panama.																														
Ancon	92	6	69	29.72	29.81	.....	79.6	.....	92	1	87	69	9	73	20		75	75	91	11.43	+ 3.7	26	4,497	nw.	25	n.	28	2	24	4	5.5	.....	.....
Culebra	404	5	62	29.41	29.82	.....	79.1	.....	91	23	86	70	9	72	18		74	74	94	10.55	− 0.6	26	4,043	nw.	25	ne.	24	0	9	21	8.0	.....	.....
Colon	10	5	71	29.83	29.84	.....	80.2	.....	89	27	85	73	9	76	14		76	75	88	9.90	− 2.6	22	5,555	se.	27	w.	3	4	9	17	7.0	.....	.....

TABLE II.—*Accumulated amounts of precipitation for each 5 minutes, for the principal storms in which the rate of fall equaled or exceeded 0.25 inch in any 5 minutes, or 0.80 in 1 hour, during September, 1913, at all stations furnished with self-registering gages.*

Stations.	Date.	Total duration.		Total amount of precipitation.	Excessive rate.		Amount before excessive rate began.	Depths of precipitation (in inches) during periods of time indicated.												
		From—	To—		Began—	Ended—		5 min.	10 min.	15 min.	20 min.	25 min.	30 min.	35 min.	40 min.	45 min.	50 min.	60 min.	80 min.	100 min.	120 min.
Abilene, Tex.	11	10.30 a. m.	1.55 p. m.	1.04	11.35 a. m.	11.55 a. m.	.03	.30	.55	.82	.90	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Albany, N. Y.	4	.....	.....	0.38	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.21	.....	.....	.....
Alpena, Mich.	3	.....	.....	0.58	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.34	.....	.....	.....
Amarillo, Tex.	10	.....	.....	0.77	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.43	.....	.....	.....
Anniston, Ala.	28–29	8.55 p. m.	D.N. a. m.	0.93	11.08 p. m.	11.25 p. m.	.12	.10	.23	.44	.51	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	29	2.13 p. m.	3.00 p. m.	0.86	2.15 p. m.	2.27 p. m.	.01	.40	.75	.84	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Asheville, N. C.	20–21	8.50 p. m.	7.20 a. m.	1.62	9.28 p. m.	10.14 p. m.	.06	.06	.25	.48	.57	.68	.72	.80	.91	.97	1.02	.....	.....	.....	.....
Atlanta, Ga.	17–18	.....	.....	0.52	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.43	.....	.....	.....
Atlantic City, N. J.	7–8	11.40 p. m.	D.N. a. m.	1.58	12.01 a. m.	12.19 a. m.	.09	.11	.26	.43	.53	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
					4.46 a. m.	5.01 a. m.	.96	.17	.43	.59	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Augusta, Ga.	29	7.35 p. m.	D.N. p. m.	1.19	8.20 p. m.	8.50 p. m.	.14	.07	.13	.25	.43	.61	.74	.....	.....	.....	.....	.....	.....	.....	.....
Baker, Oreg.	29	.....	.....	0.49	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.18	.....	.....	.....
Baltimore, Md.	21	2.10 p. m.	9.10 p. m.	1.16	4.28 p. m.	4.44 p. m.	.53	.15	.25	.35	.39	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bentonville, Ark.	19	7.25 p. m.	9.30 p. m.	0.88	7.52 p. m.	8.12 p. m.	.01	.20	.40	.53	.64	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Binghamton, N. Y.	21–22	3.40 p. m.	2.00 a. m.	2.27	4.19 p. m.	5.49 p. m.	.12	.05	.13	.22	.28	.34	.40	.50	.55	.64	.69	.82	1.05	1.27	.....
Birmingham, Ala.	16–17	9.24 p. m.	9.20 a. m.	2.03	3.29 a. m.	4.13 a. m.	.25	.09	.29	.42	.51	.65	.78	.90	1.10	1.17	.....	.....	.....	.....	.....
Bismarck, N. Dak.	9	5.27 p. m.	6.15 p. m.	0.56	5.27 p. m.	5.41 p. m.	.00	.23	.38	.47	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Block Island, R. I.	22	.....	.....	1.00	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.67	.....	.....	.....
Boise, Idaho.	21	.....	.....	0.29	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.22	.....	.....	.....
Buffalo, N. Y.	22	.....	.....	0.45	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.18	.....	.....	.....
Burlington, Vt.	22	.....	.....	2.01	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.51	.....	.....	.....
Cairo, Ill.	17–18	.....	.....	0.78	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.46	.....	.....	.....
Canton, N. Y.	21	.....	.....	0.66	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.30	.....	.....	.....
Charles City, Iowa.	8	.....	.....	0.52	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.48	.....	.....	.....
Charleston, S. C.	5	12.38 p. m.	5.44 p. m.	3.17	12.40 p. m.	1.30 p. m.	.01	.22	.30	.37	.46	.50	.56	.75	1.09	1.23	1.47	.....	.....	.....	.....
	.....	.....	.....	.....	1.30 p. m.	2.20 p. m.	.....	1.73	1.92	1.99	2.00	2.01	2.01	2.01	2.04	2.19	2.43	.....	.....	.....	.....
	.....	.....	.....	.....	2.20 p. m.	2.51 p. m.	.....	2.58	2.67	2.79	2.89	2.96	3.11	3.13	.....	.....	.....	.....	.....	.....	.....
	18	5.09 p. m.	5.58 p. m.	0.53	5.09 p. m.	5.27 p. m.	.00	.10	.29	.44	.53	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	18	7.10 p. m.	9.36 p. m.	0.85	7.19 p. m.	7.42 p. m.	.04	.11	.25	.37	.55	.61	.....	.....	.....	.....	.....	.....	.....	.....	.....
Charlotte, N. C.	18	.....	.....	0.76	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.19	.....	.....	.....
Chattanooga, Tenn.	29	.....	.....	1.62	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.50	.....	.....	.....
Cheyenne, Wyo.	2	2.23 p. m.	3.10 p. m.	0.94	2.23 p. m.	2.51 p. m.	.00	.11	.20	.24	.50	.85	.93	.....	.....	.....	.....	.....	.....	.....	.....
Chicago, Ill.	16	.....	.....	0.73	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.34	.....	.....	.....
Cincinnati, Ohio.	7	.....	.....	0.67	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.44	.....	.....	.....
Cleveland, Ohio.	30	.....	.....	0.91	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.54	.....	.....	.....
Columbia, Mo.	19	.....	.....	0.86	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.56	.....	.....	.....
Columbia, S. C.	16	9.00 a. m.	5.48 p. m.	1.58	4.10 p. m.	4.40 p. m.	.92	.06	.13	.23	.36	.51	.62	.....	.....	.....	.....	.....	.....	.....	.....
	18	6.30 a. m.	8.00 p. m.	1.48	11.30 a. m.	11.48 a. m.	.56	.30	.60	.69	.74	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Columbus, Ohio.	17	1.40 p. m.	6.35 p. m.	1.30	3.19 p. m.	3.36 p. m.	.08	.13	.25	.49	.52	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
					4.06 p. m.	4.26 p. m.	.63	.05	.14	.41	.64	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Concord, N. H.	22	8.57 a. m.	12.55 p. m.	1.62	11.13 a. m.	11.40 a. m.	.59	.13	.42	.62	.70	.88	.94	.....	.....	.....	.....	.....	.....	.....	.....
Concordia, Kans.	24	.....	.....	1.17	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.46	.....	.....	.....
Corpus Christi, Tex.	11	7.28 a. m.	10.20 a. m.	1.48	7.40 a. m.	8.20 a. m.	.02	.21	.46	.72	.90	1.05	1.13	1.23	1.30	.....	.....	.....	.....	.....	.....
	12	7.06 p. m.	8.10 p. m.	0.58	7.18 p. m.	7.45 p. m.	.05	.07	.16	.30	.39	.49	.53	.....	.....	.....	.....	.....	.....	.....	.....
	17	6.26 a. m.	7.42 a. m.	0.99	6.29 a. m.	7.14 a. m.	.01	.11	.16	.29	.54	.61	.67	.74	.89	.96	.....	.....	.....	.....	.....
	25	D.N. a. m.	12.12 p. m.	2.53	8.52 a. m.	9.42 a. m.	1.04	.06	.18	.29	.35	.39	.48	.68	.69	.69	.71	.....	.....	.....	.....
Davenport, Iowa.	19	.....	.....	0.53	9.42 a. m.	10.17 a. m.	.....	.72	.72	.78	.92	1.01	1.09	1.19	.....	.....	.....	.....	.....	.....	.....
Dayton, Ohio.	20	.....	.....	0.40	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.32	.....	.....	.....
Del Rio, Tex.	25	.....	.....	0.58	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.35	.....	.....	.....
Denver, Colo.	11	.....	.....	0.75	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.34	.....	.....	.....
Des Moines, Iowa.	10–11	D. N. p. m.	7.10 a. m.	0.99	4.09 a. m.	4.33 a. m.	.16	.08	.22	.32	.45	.52	.....	.....	.....	.....	.....	.23	.....	.....	.....
Detroit, Mich.	20	.....	.....	0.65	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Devils Lake, N. Dak.	5	5.35 p. m.	8.45 p. m.	0.82	6.16 p. m.	6.41 p. m.	.04	.12	.33	.47	.56	.61	.....	.....	.....	.....	.....	.51	.....	.....	.....
Dodge City, Kans.	8–9	10.50 p. m.	D.N. a. m.	1.36	11.11 p. m.	11.41 p. m.	.10	.17	.28	.30	.33	.48	.54	.....	.....	.....	.....	.....	.....	.....	.....
Dubuque, Iowa.	7	.....	.....	0.42	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.42	.....	.....	.....
Duluth, Minn.	10	.....	.....	1.04	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.52	.....	.....	.....
Durango, Colo.	8	.....	.....	0.63	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.24	.....	.....	.....
Eastport, Me.	23	.....	.....	0.73	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.32	.....	.....	.....
Elkins, W. Va.	7	2.28 p. m.	5.35 p. m.	0.96	2.31 p. m.	2.52 p. m.	.01	.24	.46	.64	.79	.82	.....	.....	.....	.....	.....	.....	.....	.....	.....
El Paso, Tex.	5	.....	.....	0.37	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.34	.....	.....	.....
Erie, Pa.	20	5.28 p. m.	D.N. a. m.	1.33	6.29 p. m.	7.21 p. m.	.08	.25	.54	.57	.63	.76	.80	.87	.88	.93	1.04	1.11	.....	.....	.....
Escanaba, Mich.	2–3	7.22 p. m.	D.N. a. m.	0.93	7.22 p. m.	7.32 p. m.	.00	.20	.30	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Eureka, Cal.	28	.....	.....	0.37	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.11	.....	.....	.....
Evansville, Ind.	17–18	10.00 p. m.	D.N. a. m.	1.14	12.36 a. m.	12.42 a. m.	.71	.26	.31	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Flagstaff, Ariz.	9–10	.....	.....	0.50	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	*	.....	.....	.....
Fort Smith, Ark.	19	8.58 p. m.	D.N. p. m.	1.30	9.00 p. m.	9.47 p. m.	.01	.17	.38	.50	.76	.86	.93	.95	.95	1.10	1.15	.....	.....	.....	.....
Fort Wayne, Ind.	30	4.40 p. m.	7.15 p. m.	1.22	5.03 p. m.	5.26 p. m.	.10	.05†	.21†	.57†	.85†	.93†	.....	.....	.....	.....	.....	.....	.....	.....	.....
Fort Worth, Tex.	9	8.02 p. m.	11.10 p. m.	1.04	8.38 p. m.	8.59 p. m.	.01	.15	.39	.63	.80	.87	.....	.....	.....	.....	.....	.....	.....	.....	.....
Fresno, Cal.	20	.....	.....	T.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	T.	.....	.....	.....
Galveston, Tex.	2	8.52 a. m.	10.05 a. m.	0.62	8.56 a. m.	9.12 a. m.	.01	.20	.27	.50	.53	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	10	7.45 a. m.	3.20 p. m.	2.24	8.34 a. m.	9.04 a. m.	.03	.23	.56	.88	1.20	1.51	1.62	.....	.....	.....	.....	.....	.....	.....	.....
	10–11	6.45 p. m.	7.30 a. m.	5.12	6.45 p. m.	7.13 p. m.	.00	.30	.58	.81	1.03	1.17	1.21	.....	.....	.....	.....	.....	.....	.....	.....
					8.13 p. m.	9.42 p. m.	1.26	.24	.27	.29	.50	.57	.60	.70	.90	1.08	1.29	1.76	3.05	3.18	.....
	12	D.N. a. m.	11.40 a. m.	2.85	3.13 a. m.	3.35 a. m.	.02	.19	.51	.92	1.01	1.08	.....	.....	.....	.....	.....	.....	.....	.....	.....
					5.24 a. m.	6.16 a. m.	1.12	.13	.23	.51	.74	.87	.94	1.01	1.09	1.17	1.19	1.29	.....	.....	.....
	25–26	10.25 p. m.	3.10 p. m.	4.52	1.18 a. m.	1.48 a. m.	1.35	.17	.40	.81	1.23	1.41	1.50	.....	.....	.....	.....	.....	.....	.....	.....
					11.15 p. m.	12.21 a. m.	.12	.11	.18	.27	.29	.37	.39	.42	.46	.51	.55	.78	1.04	.....	.....
Grand Haven, Mich.	30	.....	.....	0.53	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.28	.....	.....	.....
Grand Junction, Colo.	3	.....	.....	0.31	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.29	.....	.....	.....
Grand Rapids, Mich.	30	.....	.....	1.04	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.49	.....	.....	.....
Green Bay, Wis.	20	.....	.....	1.83	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.47	.....	.....	.....
Hannibal, Mo.	11	3.18 p. m.	D.N. p. m.	1.39	4.23 p. m.	5.02 p. m.	.08	.20	.55	.62	.64	.67	.75	.83	.93	.....	.....	.....	.....	.....	.....
Harrisburg, Pa.	19–20	7.10 p. m.	D.N. a. m.	1.44	9.22 p. m.	10.07 p. m.	.35	.08	.36	.58	.60	.64	.70	.79	.83	.89	.....	.....	.....	.....	.....
Hartford, Conn.	21	1.48 p. m.	9.10 p. m.	1.54	2.58 p. m.	3.21 p. m.	.30	.14	.28	.42	.68	.77	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hatteras, N. C.	7–8	.....	.....	0.52	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.40	.....	.....	.....
Havre, Mont.	18	7.01 p. m.	11.18 p. m.	0.96	7.59 p. m.	8.34 p. m.	.15	.05	.16	.28	.38	.43	.56	.72	.....	.....	.....	.....	.....	.....	.....
Helena, Mont.	22	.....	.....	0.70	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.09	.....	.....	.....
Houghton, Mich.	19	.....	.....	0.05	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.04	.....	.....	.....
Houston, Tex.	4	.....	.....	0.36	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.24	.....	.....	.....
	7	1.02 p. m.	5.25 p. m.	4.55	1.11 p. m.	2.01 p. m.	.01	.21	.44	.53	.68	.84	1.11	1.38	1.68	1.93	2.10	.....	.....	.....	.....
					2.01 p. m.	2.51 p. m.	.....	2.21	2.52	2.71	2.94	3.04	3.29	3.39	3.49	3.65	3.80	.....	.....	.....	.....
					2.51 p. m.	3.17 p. m.	.....	3.95	4.08	4.16	4.28	4.36	4.38	.....	.....	.....	.....	.....	.....	.....	.....
	27	D.N. a. m.	11.55 a. m.	2.44	9.20 a. m.	10.39 a. m.	.69	.12	.28	.34	.43	.52	.61	.70	.84	.94	1.07	1.24	1.72	.....	.....
					10.40 a. m.	11.30 a. m.	.02	.13	.20	.22	.36	.51	.52	.76	.89	.94	.98	.....	.....	.....	.....
	30–1[1]	10.10 a. m.	D.N. a. m.	2.98	11.30 a. m.	12.20 p. m.	.....	1.06	1.18	1.31	1.44	1.54	1.57	1.62	1.70	1.76	1.84	.....	.....	.....	.....
					12.20 p. m.	12.43 p. m.	.....	1.91	1.99	2.11	2.23	2.29	.....	.....	.....	.....	.....	.....	.....	.....	.....
Huron, S. Dak.	3	.....	.....	0.23	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.08	.....	.....	.....

[1] October 1st.

TABLE II.—*Accumulated amounts of precipitation for each 5 minutes, for the principal storms in which the rate of fall equaled or exceeded 0.25 inch in any 5 minutes, or 0.80 in 1 hour, during September, 1913, at all stations furnished with self-registering gages*—Continued.

Stations.	Date.	Total duration.		Total amount of precipitation.	Excessive rate.		Amount before excessive rate began.	Depths of precipitation (in inches) during periods of time indicated.													
		From—	To—		Began—	Ended—		5 min.	10 min.	15 min.	20 min.	25 min.	30 min.	35 min.	40 min.	45 min.	50 min.	60 min.	80 min.	100 min.	120 min
Independence, Cal.	‡																				
Indianapolis, Ind.	30	3.14 p. m.	4.38 p. m.	1.12	3.14 p. m.	3.31 p. m.	.00	.16	.60	1.00	1.06										
Iola, Kans.	11	4.50 a. m.	9.55 a. m.	1.62	4.56 a. m.	5.27 a. m.	.01	.12	.21	.29	.33	.43	.51	.55							
Jacksonville, Fla.	19	11.45 a. m.	2.44 p. m.	0.82	11.54 a. m.	12.30 p. m.	.02	.07	.19	.29	.29	.31	.46	.71	.74						
Kalispell, Mont.	8			0.27														.17			
Kansas City, Mo.	10	1.50 a. m.	D. N. a. m.	0.72	1.55 a. m.	2.14 a. m.	.02	.16	.30	.41	.52										
	10–11	9.45 p. m.	D. N. a. m.	1.15	9.56 p. m.	10.23 p. m.	.02	.20	.38	.55	.71	.86	.92								
	19	4.28 p. m.	5.40 p. m.	0.97	4.31 p. m.	4.44 p. m.	.01	.35	.85	.92											
Keokuk, Iowa.	19			0.79														.35			
Key West, Fla.	4–5	8.35 p. m.	5.30 a. m.	1.76	3.29 a. m.	4.22 a. m.	.14	.06	.10	.25	.52	.83	.99	1.14	1.21	1.26	1.31	1.49			
	5	6.55 a. m.	11.15 a. m.	1.89	8.42 a. m.	9.36 a. m.	.24	.20	.25	.31	.38	.59	.81	1.03	1.16	1.27	1.39	1.48			
Knoxville, Tenn.	20			1.01														.63			
La Crosse, Wis.	19			1.09														.31			
Lander, Wyo.	22–23			1.04														*			
Lansing, Mich.	20			0.47														.34			
La Salle, Ill.	20			0.97														.48			
Lewiston, Idaho.	29			0.28														.11			
Lexington, Ky.	7			0.45														.45			
Lincoln, Nebr.	24			1.74														.59			
Little Rock, Ark.	8	4.32 p. m.	6.25 p. m.	0.72	4.36 p. m.	4.52 p. m.	.01	.17	.37	.51	.54										
Los Angeles, Cal.	2			0.02														.02			
Louisville, Ky.	17			0.42														.17			
Ludington, Mich.	16			1.11														.27			
Lynchburg, Va.	12			0.50														.50			
Macon, Ga.	29	5.20 p. m.	6.55 p. m.	0.69	6.12 p. m.	6.37 p. m.	.10	.19	.27	.42	.50	.57									
Madison, Wis.	19–20			2.10														.59			
Marquette, Mich.	20–21			1.38														*			
Memphis, Tenn.	15	1.30 p. m.	5.15 p. m.	1.80	3.30 p. m.	4.05 p. m.	.73	.21	.32	.40	.43	.55	.77	.89							
Meridian, Miss.	14–15	10.05 p. m.	D. N. a. m.	1.22	12.23 a. m.	12.40 a. m.	.08	.25	.40	.48	.50										
	16–17	10.00 p. m.	D. N. a. m.	1.52	2.40 a. m.	3.26 a. m.	.32	.09	.16	.35	.47	.60	.73	.86	.92	1.01	1.13				
Miami, Fla.	6	12.31 p. m.	3.50 p. m.	2.33	12.41 p. m.	1.29 p. m.	.03	.33	.49	.68	.88	1.14	1.48	1.73	1.92	2.09	2.17				
	16	11.02 a. m.	11.22 a. m.	0.59	11.03 a. m.	11.15 a. m.	.01	.30	.49	.58											
Milwaukee, Wis.	30			0.39														.39			
Minneapolis, Minn.	10–11			2.52														*			
Mobile, Ala.	13–14	D. N. p. m.	3.25 p. m.	4.18	1.42 a. m.	2.28 a. m.	.39	.10	.19	.19	.19	.19	.20	.34	.52	.68	.71				
Do.					5.12 a. m.	6.12 a. m.	1.30	.13	.20	.39	.48	.56	.71	.84	1.01	1.20	1.43	1.72			
Do.	15	D. N. a. m.	2.20 p. m.	3.88	12.30 a. m.	1.04 a. m.	.70	.11	.29	.37	.38	.40	.58	.70							
Do.					2.33 a. m.	3.45 a. m.	1.18	.15	.18	.22	.25	.28	.44	.63	.79	.83	.84	1.18	1.74		
Do.	16	D. N. a. m.	6.40 a. m.	1.17	5.14 a. m.	5.47 a. m.	.02	.12	.13	.33	.42	.49	.63	.71	.74	.75	.75	.85	1.15		
Do.	30	11.25 a. m.	5.50 a. m.	1.89	1.27 p. m.	2.24 p. m.	.48	.06	.07	.07	.07	.08	.13	.24	.35	.45	.65	.82			
Modena, Utah.	6			0.52														.26			
Montgomery, Ala.	15	D. N. a. m.	3.20 p. m.	2.24	7.29 a. m.	8.03 a. m.	.52	.15	.28	.31	.33	.37	.42	.56							
	29	2.40 p. m.	8.20 p. m.	1.51	5.04 p. m.	5.19 p. m.	.20	.05	.28	.52											
Moorhead, Minn.	10	2.10 a. m.	11.50 a. m.	1.34	5.57 a. m.	6.26 a. m.	.23	.15	.24	.32	.43	.50	.60								
Mount Tamalpais, Cal.	1			0.01														T.			
Mount Weather, Va.	30	7.20 p. m.	9.30 p. m.	1.11	7.45 p. m.	8.02 p. m.	.01	.25	.66	.83	.87										
Nantucket, Mass.	4–5	8.20 p. m.	9.25 a. m.	1.59	7.52 a. m.	8.37 a. m.	.63	.11	.14	.22	.26	.33	.44	.59	.75	.84					
	18	5.35 a. m.	11.25 a. m.	2.29	7.41 a. m.	8.43 a. m.	.19	.10	.24	.38	.55	.70	.78	.83	.88	.96	1.00	1.18	1.34		
Nashville, Tenn.	28			0.96														.33			
New Haven, Conn.	18			0.53														.36			
New Orleans, La.	8	10.10 a. m.	8.45 p. m.	2.08	6.00 p. m.	7.30 p. m.	.09	*	*	*	*	*	*	*	*	*	*	*	*	1.80	
	13–14	8.55 p. m.	5.30 a. m.	3.94	12.42 a. m.	1.09 a. m.	.94	.06	.17	.33	.58	.74	.80								
					1.38 a. m.	2.50 a. m.	1.89	.06	.16	.37	.60	.66	.82	.89	1.09	1.27	1.43	1.66	1.85		
New York, N. Y.	4–5	9.48 p. m.	1.40 a. m.	3.38	10.30 p. m.	11.20 p. m.	.24	.08	.18	.29	.45	.53	.58	.62	.62	.69	.73				
					11.20 p. m.	12.10 a. m.		.85	.96	1.05	1.27	1.47	1.69	2.05	2.33	2.40	2.49				
					12.10 a. m.	12.45 a. m.		2.59	2.73	2.73	2.73	2.86	2.96	3.11							
Norfolk, Va.	3	12.30 a. m.	10.30 a. m.	1.29	9.21 a. m.	9.41 a. m.	.50	.09	.24	.58	.76										
	6	2.25 p. m.	3.25 p. m.	0.70	2.36 p. m.	3.00 p. m.	.01	.18	.39	.49	.59	.64									
	19	4.05 p. m.	8.15 p. m.	1.40	5.37 p. m.	6.15 p. m.	.42	.07	.18	.36	.50	.56	.62	.69	.73						
Northfield, Vt.	22			1.12														.52			
North Head, Wash.	27			0.34														.21			
North Platte, Nebr.	16			0.61														.18			
Oklahoma, Okla.	24–25	6.35 p. m.	5.00 a. m.	2.03	6.35 p. m.	7.11 p. m.	.00	.14	.28	.36	.40	.49	.57	.64	.66						
Omaha, Nebr.	24			1.91														.48			
Oswego, N. Y.	21			2.12														.43			
Palestine, Tex.	30	6.18 p. m.	9.27 p. m.	1.00	6.40 p. m.	7.10 p. m.	.02	.10	.25	.35	.48	.60	.68								
Parkersburg, W. Va.	8			0.68														.41			
Pensacola, Fla.	7	9.45 a. m.	3.50 p. m.	3.42	10.15 a. m.	10.47 a. m.	.02	.24	.50	.62	.67	.74	.80	.86							
					11.30 a. m.	12.20 p. m.	.96	.22	.25	.48	.62	.72	.77	.80	.84	.87	.88				
					12.20 p. m.	1.02 p. m.		.89	1.07	1.28	1.64	1.84	1.88	2.13	2.36	2.43					
Do.	15	9.00 a. m.	1.15 p. m.	1.30	9.22 a. m.	10.11 a. m.	.04	.19	.29	.30	.31	.31	.39	.58	.63	.71	.77				
Do.	17	4.35 p. m.	9.00 p. m.	1.57	5.06 p. m.	6.10 p. m.	.06	.08	.22	.28	.42	.53	.72	.84	.98	1.12	1.24	1.40	1.48		
Peoria, Ill.	20			1.43														.77			
Philadelphia, Pa.	21–22	6.30 p. m.	D. N. a. m.	1.56	7.53 p. m.	8.27 p. m.	.15	.21	.33	.45	.61	.94	.96	1.14							
Phoenix, Ariz.	5			0.10														.10			
Pierre, S. Dak.	14			0.08														.08			
Pittsburgh, Pa.	8			0.89														.56			
Pocatello, Idaho.	2			0.31														.28			
Point Reyes Light, Cal.	3			0.07														.04			
Port Huron, Mich.	20			0.48														.17			
Portland, Me.	8	2.35 p. m.	3.10 p. m.	1.50	2.43 p. m.	3.06 p. m.	.01	.34	.72	1.04	1.35	1.48									
Portland, Oreg.	4			0.27														.16			
Providence, R. I.	22	10.12 a. m.	12.32 p. m.	0.77	10.18 a. m.	10.57 a. m.	.03	.14	.27	.35	.37	.40	.51	.55	.65						
Pueblo, Colo.	9			0.33														.33			
Raleigh, N. C.	5	1.42 p. m.	3.50 p. m.	1.47	1.45 p. m.	2.24 p. m.	.01	.22	.71	.97	1.14	1.24	1.30	1.35	1.40						
Rapid City, S. Dak.	15			2.08														.56			
Reading, Pa.	7	4.49 p. m.	10.53 p. m.	1.63	4.51 p. m.	5.35 p. m.	.01	.26	.53	.62	.80	1.03	1.11	1.18	1.24	1.33					
	21	2.27 p. m.	9.52 p. m.	1.56	6.02 p. m.	6.18 p. m.	.46	.18	.41	.70	.74										
Red Bluff, Cal.	‡																				
Reno, Nev.	28			0.08														.08			
Richmond, Va.	3	10.42 a. m.	1.05 p. m.	0.94	12.01 p. m.	12.44 p. m.	.26	.05	.10	.24	.26	.28	.36	.48	.57	.68					
Rochester, N. Y.	22			0.35														.31			
Roseburg, Oreg.	28			0.90														.25			
Roswell, N. Mex.	10	7.30 p. m.	8.25 p. m.	0.52	7.43 p. m.	8.05 p. m.	.05	.07	.21	.33	.40	.45									
Sacramento, Cal.	20			T.														T.			
Saginaw, Mich.	7			0.49														.44			
St. Joseph, Mo.	10–11	6.04 p. m.	D. N. a. m.	1.95	6.21 p. m.	7.03 p. m.	.04	.23	.52	.73	1.00	1.20	1.30	1.35	1.40	1.43					
St. Louis, Mo.	12			1.10														.51			

TABLE II.—*Accumulated amounts of precipitation for each 5 minutes, for the principal storms in which the rate of fall equaled or exceeded 0.25 inch in any 5 minutes, or 0.80 in 1 hour, during September, 1913, at all stations furnished with self-registering gages*—Continued.

Stations.	Date.	Total duration.		Total amount of precipitation.	Excessive rate.		Amount before excessive rate began.	Depths of precipitation (in inches) during periods of time indicated.												
		From—	To—		Began—	Ended—		5 min.	10 min.	15 min.	20 min.	25 min.	30 min.	35 min.	40 min.	45 min.	50 min.	60 min.	80 min.	100 min.	120 min.
St. Paul, Minn.	10–11	7.10 p. m.	1.30 a. m.	1.60	7.15 p. m.	7.46 p. m.	.01	.16	.30	.35	.42	.49	.54	.....	.....	.....	.....	.....	.....	.....	.....
Salt Lake City, Utah	22	.....	.....	0.31	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.13	.....	.....	.....
San Antonio, Tex.	8–9	11.25 p. m.	2.10 a. m.	2.48	11.30 p. m.	12.20 a. m.	.02	.15	.28	.37	.42	.55	.72	.89	1.19	1.57	1.77	.....	.....	.....	.....
Do.		.....	.....	.....	12.57 a. m.	1.12 a. m.	1.87	.17	.40	.54	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do.	11	12.15 a. m.	12.30 p. m.	1.24	7.17 a. m.	7.47 a. m.	.21	.16	.23	.34	.53	.67	.83	.....	.....	.....	.....	.....	.....	.....	.....
Do.	24	2.25 p. m.	8.30 p. m.	1.14	3.45 p. m.	4.01 p. m.	.11	.13	.40	.57	.61	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
San Diego, Cal.	23	.....	.....	0.02	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sand Key, Fla.	5	6.10 a. m.	11.50 a. m.	1.53	6.44 a. m.	7.20 a. m.	.10	.06	.17	.26	.41	.67	.93	1.14	1.19	.....	.....	.02	.....	.....	.....
	27	12.49 a. m.	1.42 a. m.	0.55	1.08 a. m.	1.33 a. m.	.05	.14	.22	.31	.32	.50	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sandusky, Ohio	30	.....	.....	0.62	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
San Francisco, Cal.	‡	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.36	.....	.....	.....
San Jose, Cal.	20	.....	.....	T.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
San Luis Obispo, Cal.	20	.....	.....	0.05	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	T.	.....	.....	.....
Santa Fe, N. Mex.	22	.....	.....	0.42	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.05	.....	.....	.....
Sault Ste. Marie, Mich.	16	.....	.....	1.07	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.29	.....	.....	.....
Savannah, Ga.	5	8.34 a. m.	9.55 a. m.	1.02	8.58 a. m.	9.40 a. m.	.03	.13	.25	.46	.52	.53	.62	.81	.90	.92	.....	.37	.....	.....	.....
Scranton, Pa.	21–22	4.50 p. m.	D. N. a. m.	1.75	6.35 p. m.	7.35 p. m.	.55	.09	.18	.24	.31	.38	.46	.53	.59	.66	.72	.93	.....	.....	.....
Seattle, Wash.	21	.....	.....	0.26	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.23	.....	.....	.....
Sheridan, Wyo.	15	.....	.....	0.90	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.25	.....	.....	.....
Shreveport, La.	12–14	5.20 p. m.[a]	10.00 a. m.[a]	6.45	2.27 a. m.	4.19 a. m.	4.69	.07	.16	.27	.29	.33	.38	.48	.66	.68	.71	.81	1.12	1.19	1.52
	25–27	3.10 p. m.[b]	2.20 p. m.[b]	8.31	6.26 p. m.	7.16 p. m.	.36	.13	.22	.24	.29	.40	.43	.55	.65	.71	.81	.....	.....	.....	.....
	.....	.....	.....	.....	7.16 p. m.	8.06 p. m.	.....	.92	1.04	1.18	1.35	1.38	1.41	1.48	1.57	1.72	1.84	.....	.....	.....	.....
	.....	.....	.....	.....	8.06 p. m.	8.41 p. m.	.....	1.91	1.98	2.06	2.13	2.27	2.36	2.45	.....	.....	.....	.....	.....	.....	.....
Sioux City, Iowa	28	.....	.....	0.25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.12	.....	.....	.....
Spokane, Wash.	28	.....	.....	0.32	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.18	.....	.....	.....
Springfield, Ill.	20	.....	.....	0.75	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.62	.....	.....	.....
Springfield, Mo.	11–12	.....	.....	1.82	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	*	.....	.....	.....
Syracuse, N. Y.	21	.....	.....	1.40	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.44	.....	.....	.....
Tacoma, Wash.	4	.....	.....	0.58	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.29	.....	.....	.....
Tampa, Fla.	20	.....	.....	0.92	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.55	.....	.....	.....
Tatoosh Island, Wash.	3	.....	.....	1.81	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.57	.....	.....	.....
Taylor, Tex.	10	3.06 p. m.	D. N. p. m.	0.74	3.30 p. m.	3.49 p. m.	.05	.18	.34	.53	.60	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Terre Haute, Ind.	15	.....	.....	1.80	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.48	.....	.....	.....
Thomasville, Ga.	5	.....	.....	0.72	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.49	.....	.....	.....
Toledo, Ohio	7	1.15 p. m.	1.48 p. m.	0.53	1.25 p. m.	1.40 p. m.	.01	.10	.33	.52	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tonopah, Nev.	13	.....	.....	0.53	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.18	.....	.....	.....
Topeka, Kans.	10, 11	5.04 p. m.	3.15 p. m.	3.13	7.32 a. m.	8.07 a. m.	1.52	.14	.25	.32	.50	.68	.78	.84	.....	.....	.....	.....	.....	.....	.....
Valentine, Nebr.	16	.....	.....	0.72	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.22	.....	.....	.....
Vicksburg, Miss.	14	1.02 p. m.	D. N. p. m.	2.08	7.27 p. m.	8.33 p. m.	.94	.09	.14	.24	.27	.34	.36	.44	.48	.53	.59	.96	1.07	.....	.....
	28–29	10.00 p. m.	12.30 p. m.	3.28	7.41 a. m.	8.42 a. m.	1.21	.07	.15	.27	.37	.49	.64	.80	.90	.99	1.16	1.51	1.60	.....	.....
	30	D. N. a. m.	7.50 a. m.	1.24	3.26 a. m.	4.00 a. m.	.03	.22	.43	.46	.50	.62	.80	.94	.....	.....	.....	.....	.....	.....	.....
Walla Walla, Wash.	28	.....	.....	0.90	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.30	.....	.....	.....
Washington, D. C.	21	3.20 p. m.	8.05 p. m.	0.93	3.38 p. m.	3.55 p. m.	.09	.37	.51	.67	.70	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Wichita, Kans.	24	.....	.....	1.15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.46	.....	.....	.....
Williston, N. Dak.	3	.....	.....	0.39	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.32	.....	.....	.....
Wilmington, N. C.	17	.....	.....	0.59	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.54	.....	.....	.....
Winnemucca, Nev.	29	.....	.....	0.37	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.12	.....	.....	.....
Wytheville, Va.	29	.....	.....	0.55	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.30	.....	.....	.....
Yankton, S. Dak.	9	.....	.....	0.60	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.23	.....	.....	.....
Yellowstone Park, Wyo.	22–23	.....	.....	0.64	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	*	.....	.....	.....

[a] 14th. [b] 25th. [c] October 1. * Self-register not working. † Record partly estimated. ‡ No precipitation occurred during month.

TABLE III.—*Data furnished by the Canadian Meteorological Service, September, 1913.*

Districts and stations.	Pressure.			Temperature.						Precipitation.		
	Station reduced to mean of 24 hours.	Sea level reduced to mean of 24 hours.	Departure from normal.	Mean max.+ mean min.÷2.	Departure from normal.	Mean maximum.	Mean minimum.	Highest.	Lowest.	Total.	Departure from normal.	Snowfall.
	Inches.	*Inches.*	*Inches.*	*°F.*	*°F.*	*°F.*	*°F.*	*°F.*	*°F.*	*Inches.*	*Inches.*	*Inches.*
St. Johns, N. F.	29.86	30.00	+.03	54.6	+0.6	62.3	47.0	76	33	2.53	−1.18	.....
Sydney, C. B. I.	30.03	30.07	+.06	56.6	+0.1	65.1	48.2	81	39	4.36	+1.08	.....
Halifax, N. S.	30.00	30.10	+.06	56.4	−1.2	66.4	46.5	85	35	2.69	−1.02	.....
Yarmouth, N. S.	30.07	30.14	+.09	54.5	−1.6	62.1	46.9	76	35	1.27	−2.18	.....
Charlottetown, P. E. I.	30.04	30.08	+.07	56.5	−0.8	63.8	49.2	79	36	3.48	+0.08	.....
Chatham, N. B.	30.07	30.09	+.09	55.5	+0.1	66.1	44.9	84	32	1.63	−1.08	.....
Father Point, Que.	30.04	30.06	+.08	49.8	−0.6	58.6	41.1	73	33	2.42	−0.71	.....
Quebec, Que.	29.78	30.10	+.09	55.2	+0.1	64.6	45.9	81	29	3.89	+0.22	.....
Montreal, Que.	29.91	30.11	+.07	56.2	−2.2	64.6	47.9	81	34	4.28	+0.98	.....
Stonecliffe, Ont.	29.50	30.11	+.08	54.3	−1.4	66.7	41.9	88	28	2.80	−0.48	.....
Ottawa, Ont.	29.87	30.19	+.15	56.4	−1.0	65.7	47.1	85	33	2.92	+0.23	.....
Kingston, Ont.	29.83	30.14	+.10	58.1	−1.9	67.0	49.1	80	36	2.44	−0.36	.....
Toronto, Ont.	29.72	30.09	+.03	59.4	+0.4	69.6	49.2	85	36	0.97	−2.28	.....
White River, Ont.	28.74	30.06	+.08	47.6	−2.7	60.5	34.8	79	15	2.27	−0.50	.....
Port Stanley, Ont.	29.48	30.12	+.06	57.7	−1.8	67.7	47.7	80	33	1.86	−0.87	.....
Southampton, Ont.	29.42	.....	.....	59.4	+1.9	69.5	49.2	92	36	2.43	−0.51	.....
Parry Sound, Ont.	29.42	30.10	+.07	57.2	+1.2	67.7	46.6	87	30	2.53	−1.14	.....
Port Arthur, Ont.	29.36	30.08	+.10	52.4	+0.2	62.0	42.8	78	26	3.85	+0.37	.....
Winnipeg, Man.	29.19	30.02	+.08	55.7	+3.2	67.0	44.4	83	23	1.27	−0.76	.....
Minnedosa, Man.	28.20	30.01	+.07	53.4	+2.9	66.8	40.1	88	23	0.95	−0.41	.....
Qu'Appelle, Sask.	27.73	29.96	+.04	54.4	+3.3	67.8	41.0	86	27	1.14	−0.19	.....
Medicine Hat, Alberta	27.66	29.91	−.01	60.4	+5.4	76.7	44.2	88	30	0.80	−0.38	.....
Swift Current, Sask.	27.37	29.92	.00	55.2	+2.1	73.0	37.5	91	24	0.48	−0.74	.....
Calgary, Alberta	26.41	29.90	−.02	55.0	+5.2	70.7	39.4	84	30	0.87	−0.49	.....
Banff, Alberta	25.42	29.99	+.06	48.2	+2.4	61.2	35.1	73	27	2.24	+0.57	T.
Edmonton, Alberta	27.63	29.90	.00	52.5	+3.2	67.3	37.7	78	27	0.50	−0.83	.....
Prince Albert, Sask.	28.36	29.91	+.01	53.5	+5.1	67.4	39.6	84	29	2.53	+1.25	.....
Battleford, Sask.	28.20	29.93	+.03	55.0	+3.2	69.4	40.7	88	22	1.07	−0.18	.....
Kamloops, B. C.	28.67	29.93	−.04	58.4	+1.0	71.2	45.7	82	36	0.48	−0.37	.....
Victoria, B. C.	29.95	30.04	+.03	56.6	+1.8	64.9	48.2	71	42	1.95	−0.21	.....
Barkerville, B. C.	25.68	29.99	+.01	43.7	−3.0	53.4	34.0	62	28	5.98	+3.07	4.7
Hamilton, Bermuda	29.96	30.12	+.05	76.6	−0.8	82.1	71.1	86	67	1.84	−4.67	.....

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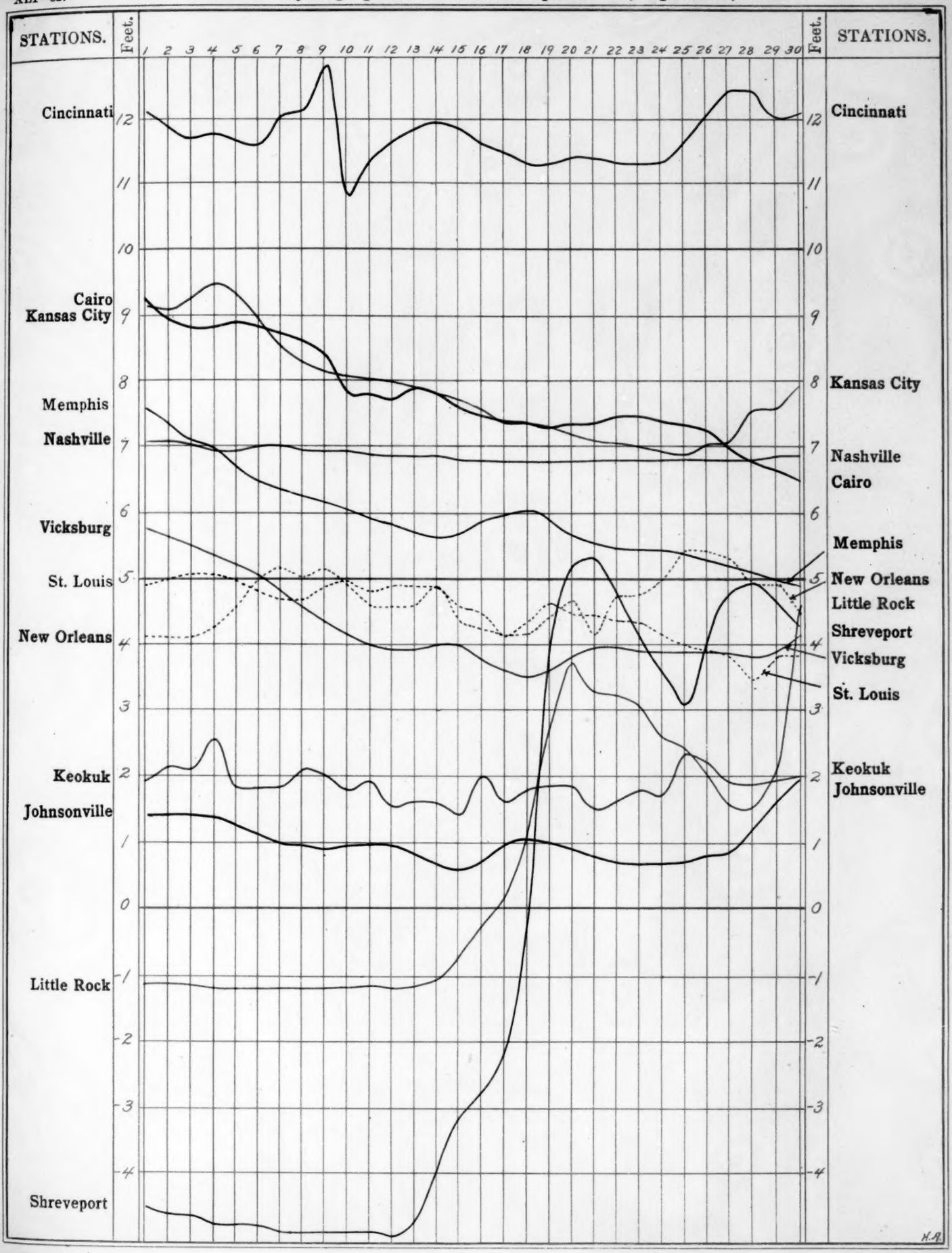
Climatological Districts of the United States.

106 Climatological Sections of the United States.

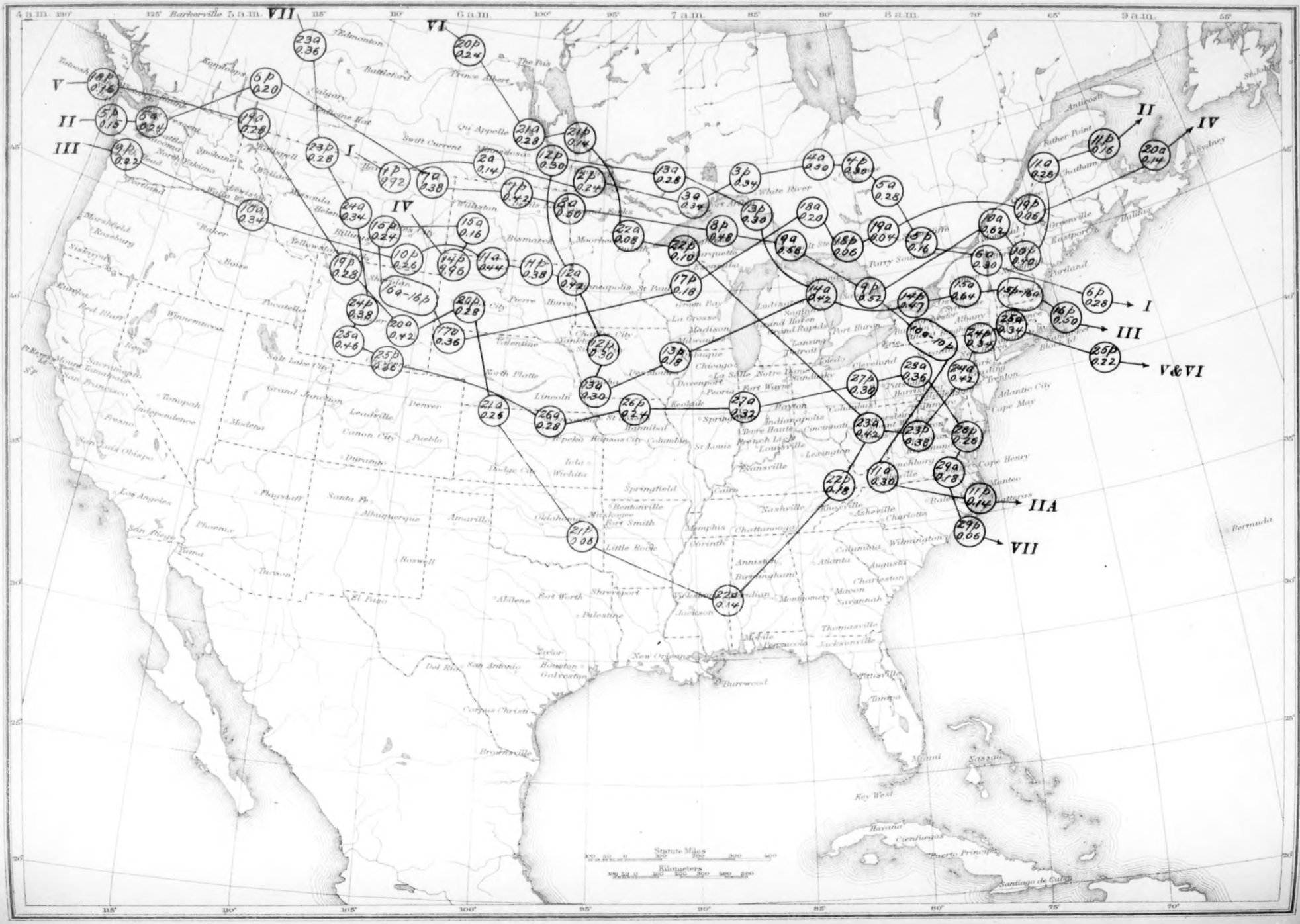
XLI—62.

Chart I. Hydrographs of Several Principal Rivers, September, 1913.



XLI—63.

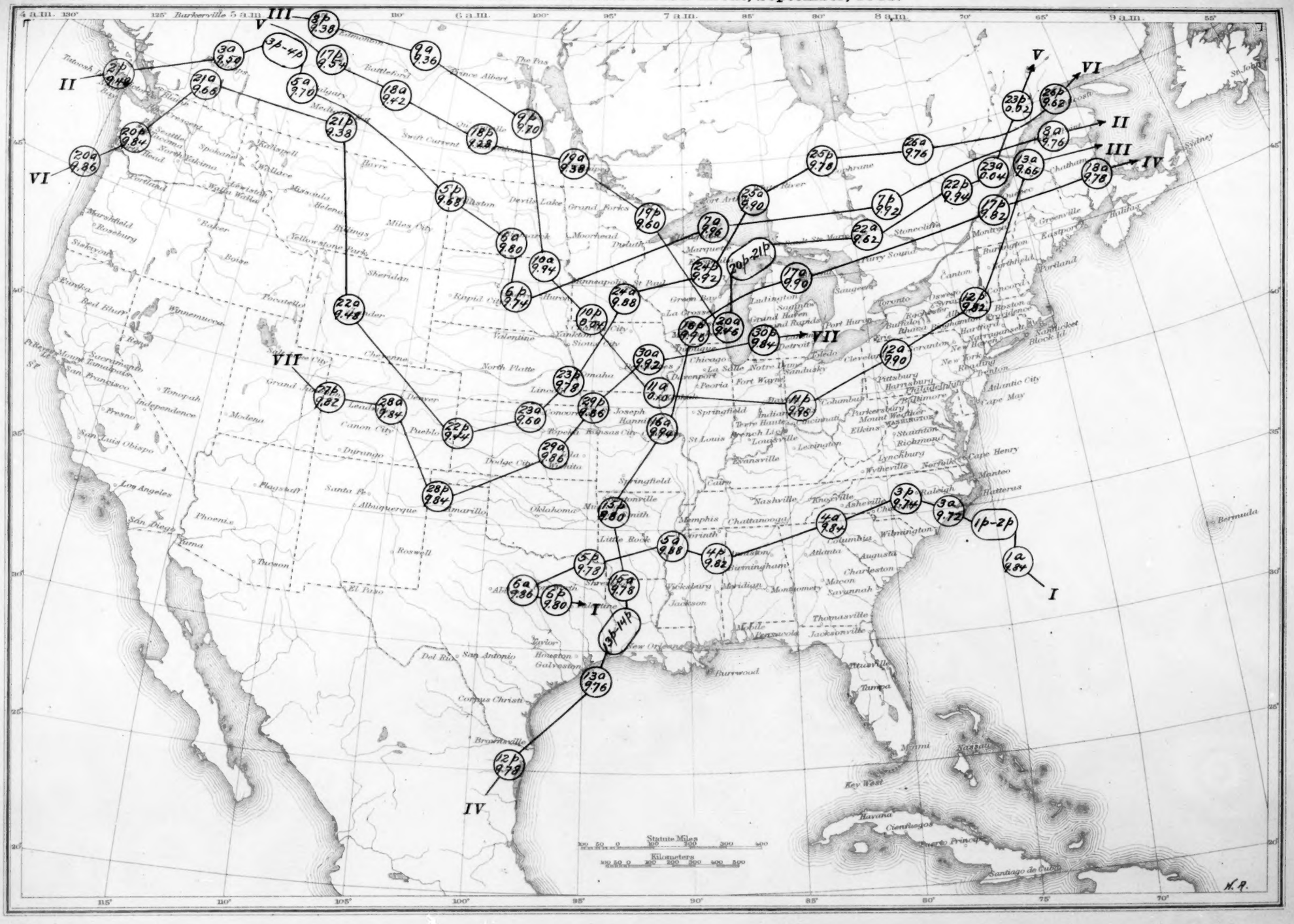
Chart II. Tracks of Centers of High Areas, September, 1913.



XLI—64.

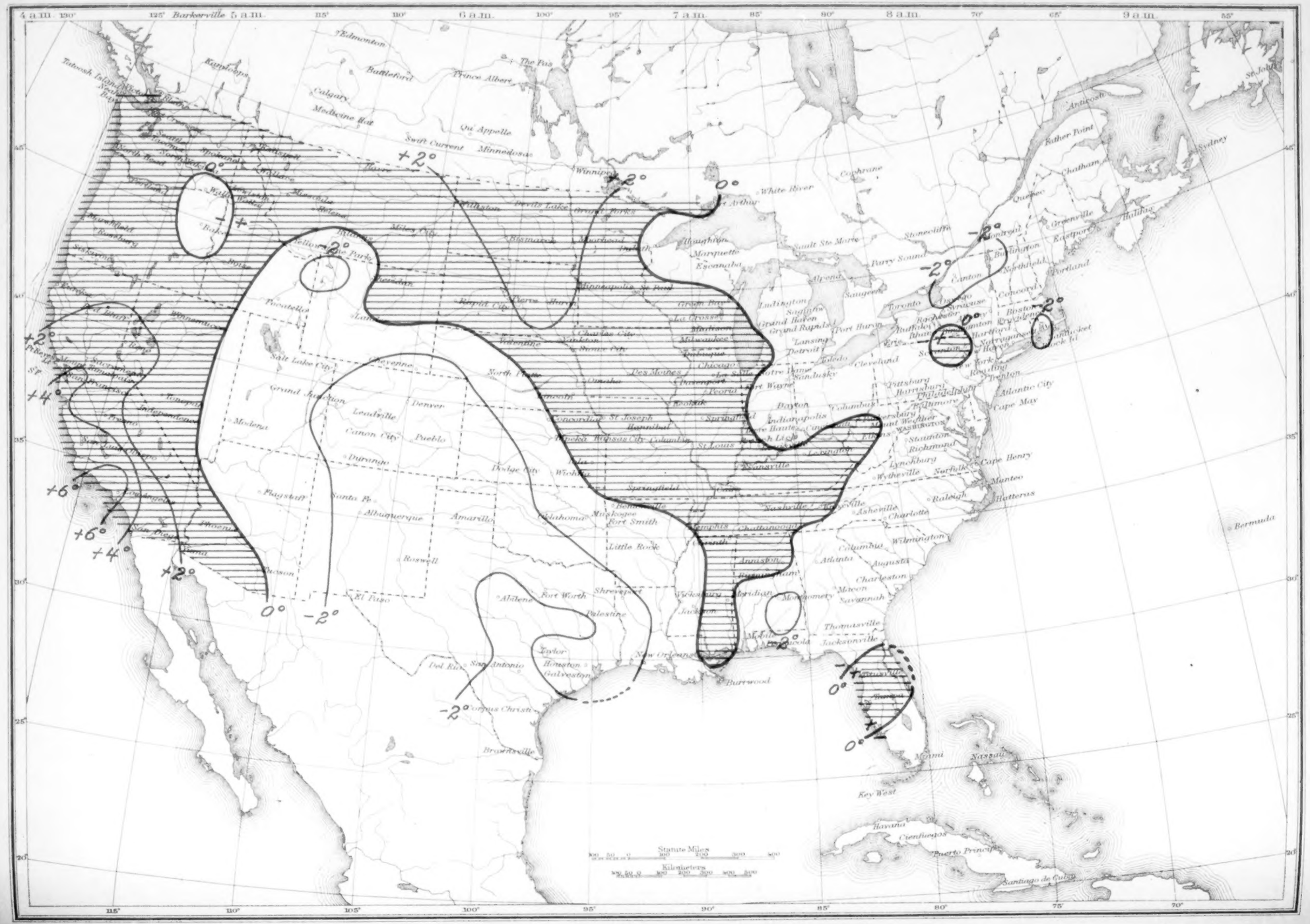
Chart III. Tracks of Centers of Low Areas, September, 1913.

Chart III. Tracks of Centers of Low Areas, September, 1913.



XLI—65.

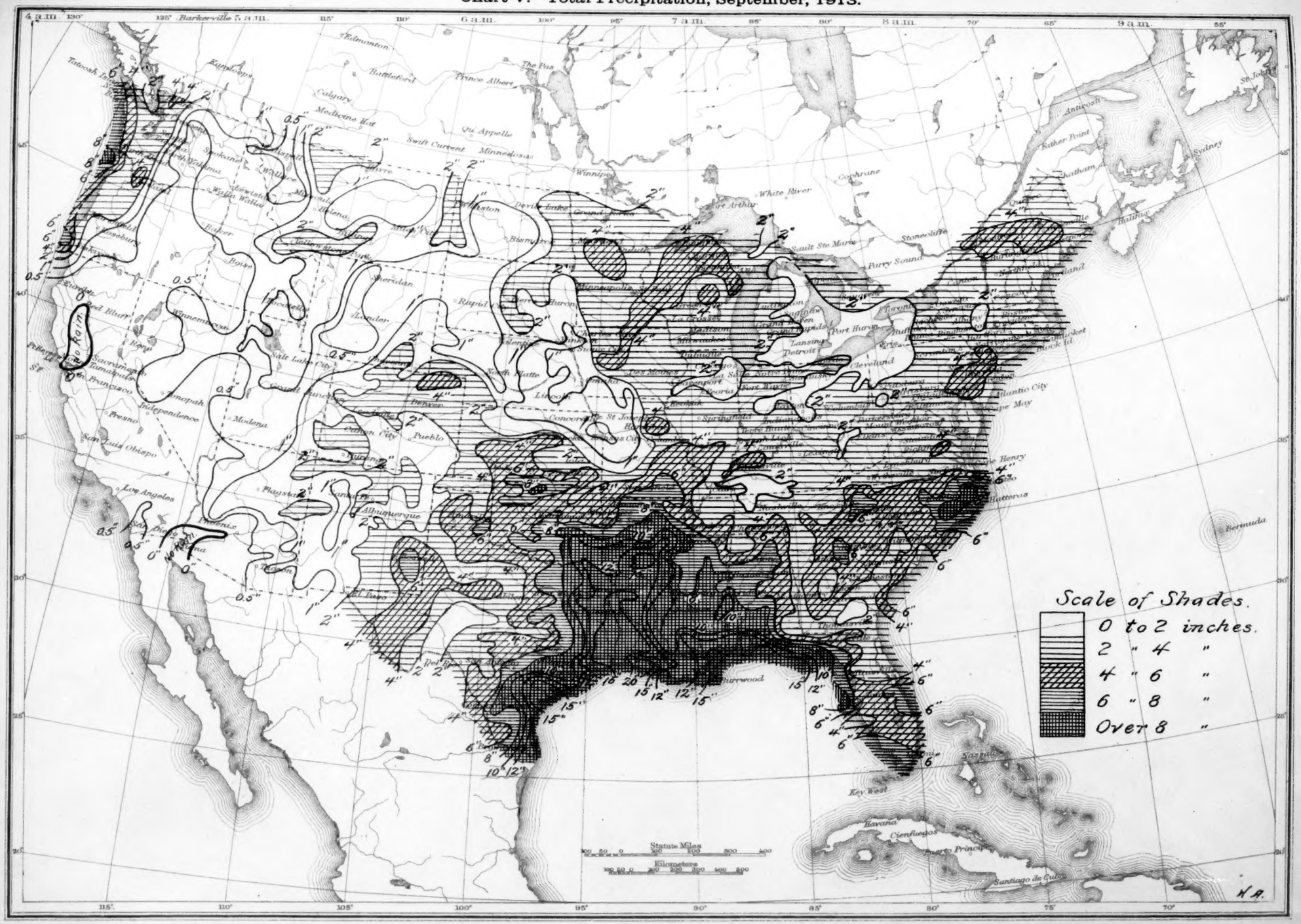
Chart IV. Departure of the Mean Temperature from the Normal, September, 1913.



XLI—66.

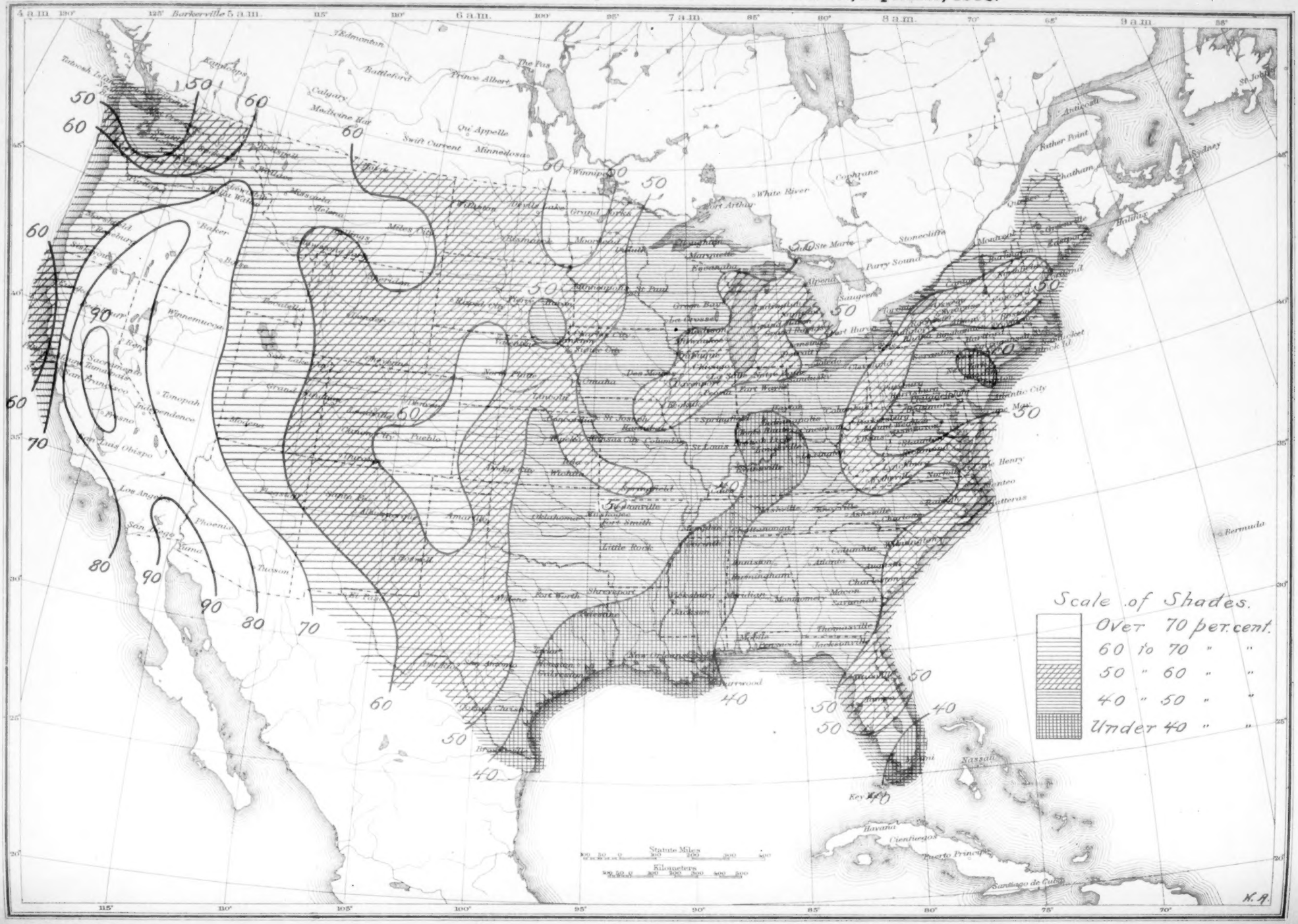
Chart V. Total Precipitation, September, 1913.

Chart V. Total Precipitation, September, 1913.



XLI—67.

Chart VI. Percentage of Clear Sky between Sunrise and Sunset, Septembr, 1913.



XLI—63.

Chart VII. Isobars and Isotherms at Sea Level: Prevailing Winds. September, 1913.

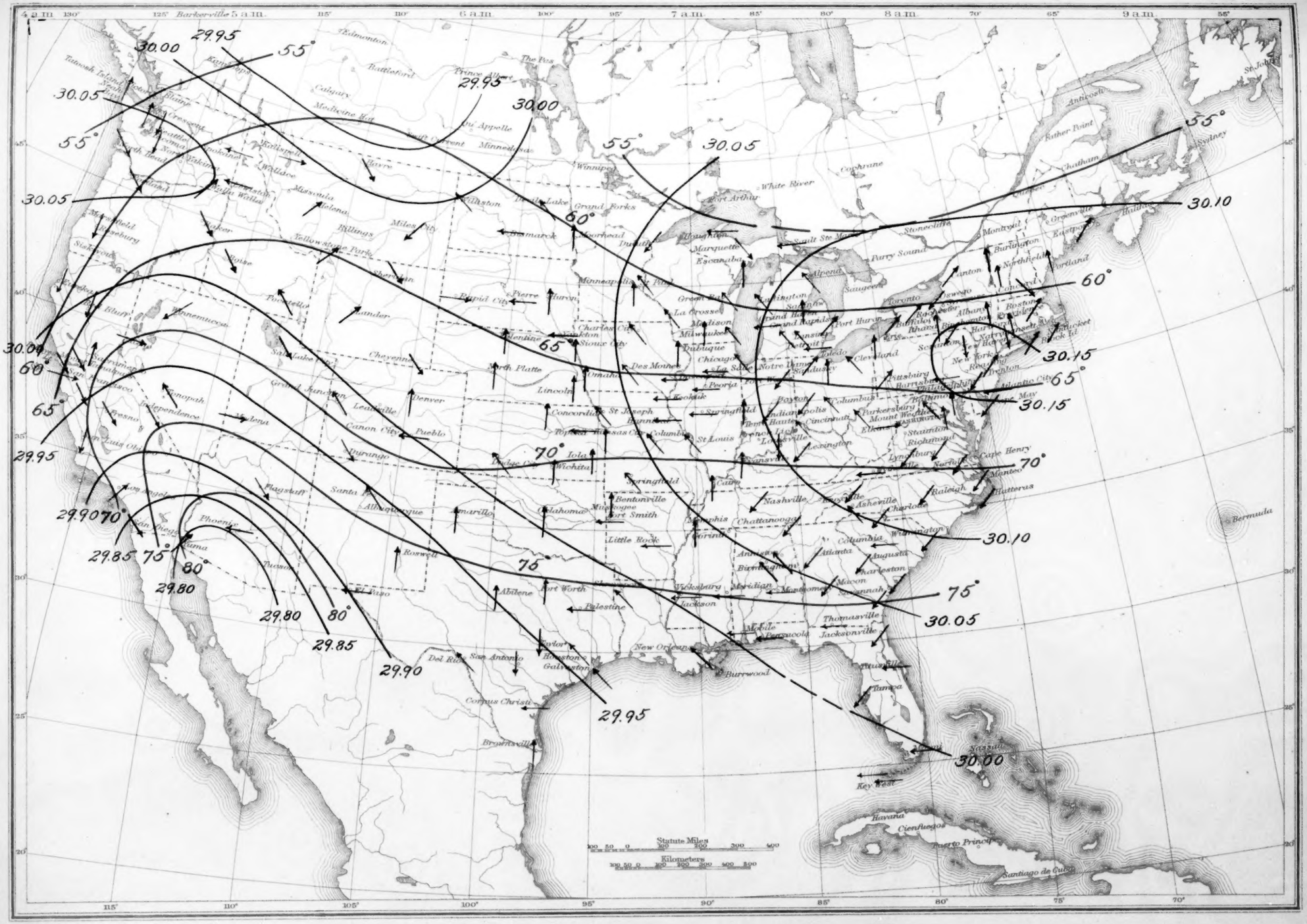



Chart VII. Isobars and Isotherms at Sea Level; Prevailing Winds, September, 1913.